

**McINTOSH
PERRY**



Hydrogeological Level 1 and 2 Report

MacLeod Quarries III and V

17361 South Branch Road, South Stormont, Ontario

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Executive Summary

McIntosh Perry Consulting Engineers Ltd. (McIntosh Perry) was retained by Cornwall Gravel Company Ltd. to conduct a hydrogeological assessment for two property parcels which represent a proposed expansion to the existing MacLeod Quarry, located between Headline Road and South Branch Road in the Township of South Stormont, Ontario. The existing aggregate licenses for the property consist of three properties, labelled from west to east as MacLeod - II, - I and - IV; currently only MacLeod I is under extraction. The current street address of the quarry is 17361 South Branch Road. This Hydrogeological Level 1 and 2 Study is being prepared in support of a Class A, Category 1 and 2 License (pit and quarry below the water table, with proposed extraction of over 20,000 tonnes per year) for the properties designated as MacLeod III (immediately to the west of MacLeod II) and MacLeod V (immediately to the east of MacLeod IV). Legal descriptions are as follows:

- MacLeod III: Part of Lot 6, Concession 4, Geographical Township of Cornwall
- MacLeod V: Part of Lot 2, Concession 4, Geographical Township of Cornwall

The proposed operations at MacLeod III and V will operate under separate licenses from the current operations at the site.

The purpose of this hydrogeological assessment was to determine the suitability of the site for the proposed aggregate extraction operation, from a hydrogeological perspective. Impacts to surrounding water supply wells, natural features, surface water bodies, and drainage patterns were considered. Mitigation measures for the protection of surface water and groundwater quality were considered based on the findings of the study. The scope of work for this assignment consisted of a review of available background information, including hydrogeological assessments completed for previous licence areas, followed by the drilling, monitoring, and hydraulic conductivity testing of monitoring wells on the proposed MacLeod III and V properties. Results of previous assessments and ongoing groundwater monitoring activities at the subject site have been incorporated into the conclusions of this report.

The majority of surrounding water supply wells in the area are completed in the upper fractured bedrock, which is considered hydraulically connected to the lower glacial till (previous reports refer to the shallow bedrock aquifer as the overburden interface aquifer). Monitoring wells were completed in the shallow bedrock aquifer, the deep bedrock aquifer (intended to represent the full proposed extraction depth of the quarry), and in the gravel layer, where encountered. Pumping tests were completed at one location on MacLeod III and one location on MacLeod V. Hydrogeological testing results indicated that the influence of pumping from wells completed in the deep bedrock aquifer will have a minimal effect on wells completed in the shallow bedrock aquifer.

Although the development of the quarry will affect drainage patterns on the subject site, proposed developmental controls and ongoing pumping from the quarry sump to surrounding drainage ditches will ensure that no significant impacts to surrounding surface water bodies occur. Based on observations from the existing quarry face, the shallow bedrock aquifer is being recharged on a localized scale from a drainage ditch into which water pumped from the quarry sump is being discharged. On a larger scale, recharge to the shallow bedrock aquifer is interpreted to occur in upland areas, and the low-permeability overburden deposits on the site are interpreted to limit localized recharge in areas of thicker overburden. Following quarry extraction, site

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grading and the capping of seepage faces with lower permeability soils will serve to preserve baseflow in surrounding surface water features and recharge into the shallow bedrock aquifer unit.

It is our opinion that the site is suitable for the proposed development, as long as it is developed under the terms and conditions of the Site Plans as approved by the Ministry of Natural Resources and Forestry (MNRF). Recommendations for semi-annual monitoring of on-site wells, the development of an off-site monitoring program, site operations, and contingency measures as summarized in this report will be reflected on the site plans.

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1.0 INTRODUCTION

McIntosh Perry Consulting Engineers Ltd. (McIntosh Perry) was retained by Cornwall Gravel Company Ltd. (Cornwall Gravel) to conduct a Hydrogeological Level 1 and 2 Study for the proposed MacLeod III and MacLeod V quarries, located between Headline Road and South Branch Road east of McConnell Avenue, in the Township of South Stormont (Geographical Township of Cornwall), Ontario. The address of the existing quarry is 17361 South Branch Road.

Cornwall Gravel currently operates the MacLeod Quarry, and is extracting limestone from the area designated as MacLeod I. Cornwall Gravel currently holds licenses for MacLeod II, immediately to the west of the current extraction area, and MacLeod IV, immediately to the east of the current extraction area. This Hydrogeological Level 1 and 2 Study is being prepared in support of a Class A, Category 1 and 2 License (pit and quarry below the water table, with proposed extraction of over 20,000 tonnes per year) for the properties designated as MacLeod III (immediately to the west of MacLeod II) and MacLeod V (immediately to the east of MacLeod IV). Legal descriptions are as follows:

- MacLeod III: Part of Lot 6, Concession 4, Geographical Township of Cornwall
- MacLeod V: Part of Lot 2, Concession 4, Geographical Township of Cornwall

The proposed operations at MacLeod III and V will operate under separate licenses from the current operations at the site. The MacLeod III property is approximately 37.8 hectares in area, with a proposed extraction area of 29.5 hectares. The MacLeod V property is approximately 40.5 hectares in area, with a proposed extraction area of 32.4 hectares.

1.1 Scope of Study

The purpose of this study is to address the Level 1 and Level 2 Hydrogeological Study requirements outlined in the Aggregate Resources of Ontario Provincial Standards. As per the Standards, the following areas have been addressed by this report:

- Review of surrounding water wells
- Presence or absence of springs
- Groundwater aquifers
- Surface water courses and bodies
- Discharge to surface water
- Proposed water storage, diversion, and drainage facilities on site
- Methodology of site-specific hydrogeological investigations
- Description of the physical setting of the site, including geology, hydrogeology, and surface water systems
- Water budget
- Impact assessment
- Mitigation measures, including trigger mechanisms
- Contingency plan

- Monitoring plan
- Technical support data in the forms of tables, graphs, and figures

Extensive hydrogeological work has been previously undertaken at the site by Gorrell Resource Investigations (Gorrell) and BGC Engineering Inc. (BGC), and has been incorporated into this report to the extent possible. In particular, a Level 1 and Level 2 Hydrogeological Study completed by BGC in 2012 in support of the MacLeod IV license, and ongoing water level monitoring since 1998, have been instrumental in the completion of this report. A full list of references is provided following the body of this report.

In addition to the work completed previously, McIntosh Perry carried out a field investigation program in cooperation with Cornwall Gravel for the purpose of providing site-specific information on the MacLeod III and V properties. The results of our investigation have been incorporated into our conceptual understanding of the site as a whole to allow for a complete and comprehensive assessment of the cumulative effects of the proposed long-term extraction plan for the site.

It is our understanding that Cornwall Gravel is currently in the process of deepening the existing aggregate licenses for the MacLeod I, II, and IV properties to an elevation of -33 m ASL through a major site plan amendment. A final extraction depth of -33 m ASL has been assumed for the existing and proposed licenses, and as such, this report is intended to support the proposed site plan amendment for the MacLeod I, II, and IV properties as well as the license application for the MacLeod III and V properties.

2.0 BACKGROUND

2.1 Site Setting

The MacLeod quarry site is located on the south side of Headline Road, east of McConnell Avenue, in the Township of South Stormont (Geographical Township of Cornwall), Ontario, approximately 800 m north of the Cornwall city limit. The MacLeod III property comprises part of Lot 6, Concession 4, Geographical Township of Cornwall, and the MacLeod V property comprises part of Lot 2, Concession 4. The site location is shown on Figure 1.

The site is located in a predominantly rural area. In addition to the City of Cornwall, located to the south of the site, areas of settlement in the vicinity include Rosedale Terrace (located approximately 1.8 km west of the site at Highway 138 and Cornwall Centre Road), Eamer's Corners (located approximately 1.4 km southwest of the site at Pitt Street and South Branch Road), Grant's Corners (located approximately 2.2 km southeast of the site at Headline Road and Street Road), and St. Andrews West (located approximately 3 km northwest of the site at Highway 138 and Dundas Street).

The southern half of the MacLeod III is currently agricultural land. Farm buildings are present on this property. The north half of MacLeod III is brush covered/fallow. The majority of the MacLeod V property currently consists of vacant cleared/grubbed land, having previously covered with brush and trees. A small area at the southwest corner of the MacLeod V property is agricultural (planted with soybeans as of the summer of 2016). These properties represent aggregate reserve lands owned by Cornwall Gravel, and intended for future extraction as an expansion of the existing MacLeod quarry operations, although it is our understanding that they will operate under a separate aggregate license. Based on conversations with Cornwall Gravel, these sites will be developed as needed. However, it is expected that the sites will be held in reserve for some time (decades).

The operating portion of the MacLeod quarry, located centrally on Lots 3 and 4, was first used for stone for the Cornwall Canal, and has been operated by Cornwall Gravel since 1959. The MacLeod I property is currently the only property undergoing extraction at this time. The licensed extraction depth at MacLeod I is 0.0 m ASL (above mean sea level), with an average licensed depth of 65 m. The current quarry floor has been extracted to approximately 10 m ASL, although the sump extends deeper. It is our understanding that Cornwall Gravel intends to deepen the existing licenses to -33 m ASL, as well as license the MacLeod III and V quarries for an extraction depth of -33 m ASL.

The current licensed area of the MacLeod Quarry is designated as Extractive Resource lands (Licensed Pit & Quarry) under the Official Plan of the United Counties of Stormont, Dundas and Glengarry. The MacLeod III and MacLeod V properties are designated as Extractive Resource Lands (Mineral Aggregate Reserve).

2.2 Neighbouring Properties and Surrounding Land Use

Land use in the immediate vicinity of the subject site is generally agricultural or vacant/wooded, although various homes and businesses are present along Headline Road, McConnell Avenue, and South Branch Road.

Land use of surrounding properties is generally designated as Agricultural Resource Lands or Rural District, with the exception of a property located at 17703 Headline Road (to the northeast of MacLeod III and to the northwest of MacLeod V), which is designated as Salvage Yard District (a salvage yard is currently operating at this property). Areas along Headline Road west of McConnell Avenue are designated as a Rural Settlement Area.

No Provincially Significant Wetlands (PSWs) or other Areas of Natural or Scientific Interest (ANSIs) were noted in the vicinity of the Site.

2.3 Site Topography

Topography at the subject site and surrounding areas is generally flat to hummocky, sloping downwards towards the south. Elevations on-site vary from approximately 75 m along Headline Road to approximately 60 m along South Branch Road. The topography of the subject site is interpreted to reflect local bedrock topography. It is noted that an area of particularly shallow bedrock is noted in the central portion of the site, extending in an approximate east-west orientation. The extraction area of the quarry on the MacLeod I property represents the most significant topographical feature in the area, extending downward to elevations approaching 0 m ASL in its deepest portion (quarry sump).

Regional topography is generally influenced by bedrock topography, and trends downward to the south towards the St. Lawrence River. Drumlins, moraine features, and river valleys, specifically those associated with the Raisin River and its tributaries, provide local relief. Site and regional topography and drainage are shown on Figure 3.

As part of the ARA license application for the subject site, a detailed topographic survey of the property has been prepared. Topographic survey information has been incorporated into the Site Plan for the property, and is shown on the figures appended to this report.

2.4 Site Hydrology

The MacLeod Quarry properties are located within the South Raisin River watershed. Surface water features on the MacLeod Quarry properties consist primarily of agricultural drains. A series of agricultural drains are present on the MacLeod I property; the quarry sump is pumped into a ditch running in a north-south direction along the quarry access road between MacLeod I and MacLeod II. The ditch connects to a series of agricultural drains on the MacLeod I and II properties and eventually connects with the Eastman Drain (a tributary of the South Raisin River) south of South Branch Road. The Eastman Drain runs in a northwest-to-southeast direction in the vicinity of the site, and crosses the southwest corner of the MacLeod III property.

The MacLeod IV property is drained by an agricultural drain which originates in a ditch running in a north/south direction along the east property boundary, then westerly onto the MacLeod I property and from there to the Eastman Drain. There are currently no surface water features on the MacLeod V property. It is our understanding that agricultural fields to the south of the MacLeod V property are drained by agricultural tile drains.

2.4.1 Site Catchment Area

Mapping of catchment areas for the proposed MacLeod III and MacLeod V quarry footprints was completed based on available topographic mapping and on previous work completed by BGC. The catchment area of MacLeod III consists of the entire parcel footprint, an area of approximately 36.4 ha. Currently, this entire area and adjacent portions of MacLeod II and lands to the east and west drains to the Eastman Drain. As quarry development takes place at MacLeod II and III, progressively larger portions of the extraction area will drain towards the MacLeod I quarry sump. However, it is our understanding that water pumped from the quarry sump will continue to be pumped to the ditch connecting to the Eastman Drain.

The northwestern portion of the MacLeod V footprint currently drains to the current footprint of the MacLeod I quarry. The majority of the MacLeod V footprint, an area of 37.4 hectares, slopes down to the southeast and drains towards agricultural drains east of the site, either by surface flow or by agricultural tile drains.

Approximate catchment areas in the vicinity of the subject site are shown in Figure 3.

2.4.2 Pre-Development Hydrologic Cycle

Prior to development of the quarry, the area of the site is considered to have been primarily agricultural. Based on surrounding soils, overburden is considered to have consisted of till and/or silty clay, with shallower bedrock present in the topographical high area in the central portion of the site. Infiltration was likely higher in areas of shallow bedrock, and lower in areas of thicker low-conductivity overburden deposits. Surface drainage at the subject site was in a northeasterly direction to an agricultural drain, or south to the Eastman Drain, both of which are tributaries of the Raisin River.

2.4.3 Present Hydrologic Cycle

Currently, the MacLeod I quarry footprint is currently under development. The quarry was developed in the vicinity of a former topographical high point, where bedrock was available for extraction with a minimum of overburden removal. Although terrain generally slopes away from the extraction area of the quarry, a certain amount of surface runoff from surrounding areas flows into the quarry footprint and is directed towards the quarry sump. The catchment area of the current quarry footprint is approximately 107.9 hectares, of which 32.9 ha consist of the excavation footprint and the remaining 72 ha consist of surrounding land to the north and north-west which drains to the quarry.

2.4.4 Post-Development Hydrologic Cycle

For the purposes of this assessment, the MacLeod II and IV quarries is being considered concurrently with the MacLeod III and V quarry applications, as extraction has not started on these licenses. The MacLeod II, III, IV, and V quarries will ultimately add 121 ha to the existing extraction area. MacLeod III and V will add 23.4 and 33.0 hectares, respectively, to the extraction area. Under full extraction, the extraction area footprint will be 242.4 hectares, and the catchment area draining to the extraction area will be approximately 86.1 hectares.

A summary of the license and extraction areas of the existing and proposed MacLeod quarries is provided below.

Table 1 Summary of License and Extraction Areas		
	License Area	Extraction Area
MacLeod I	125.8	121.4
MacLeod II	37.7	33.6
MacLeod III	37.8	29.5
MacLeod IV	26.02	22.88
MacLeod V	40.5	32.4
Total	267.82	239.78

Drainage patterns under full quarry development are shown on Figure 3, appended to this report.

2.4.5 Site Water Use

The MacLeod quarry currently operates under Permit To Take Water (PTTW) 8253-82BR66. This PTTW covers pumping of water from the quarry sump, as well as on-site water use for quarry operations purposes.

The sump is located in the western portion of the extraction area, at the lowest point of the quarry, and is approximately 91 m by 31 m with a depth of approximately 7.6 m. The sump is equipped with an electrical submersible pump, which operates automatically on an as-needed basis by a float system. The pump may also be operated manually to supply water for dust suppression or other uses.

Although the system has the capability to operate continuously, quarry dewatering occurs on an as-needed basis to remove accumulated runoff from the quarry and to provide water for quarry operations. The system is equipped with a totalizing flow meter for the purpose of reporting pumping volumes under the PTTW. Pumping rates for recent years are summarized below:

Table 2 Summary of Pumping Rates			
2012	2013	2014	2015
804,609,509 L	817,007,498 L	862,963,000 L	786,407,562 L

Quarry operations which use water from the sump include the crusher plant and the aggregate wash plant. Water is also used for dust suppression on-site.

2.4.6 Water Balance

The water balance for the MacLeod III and V sites was calculated using the general methodology used by BGC in their 2012 report for the MacLeod IV site. Precipitation data for the water balance calculations were obtained from the Environment Canada database for Climate Station 6101874, located in Cornwall, Ontario. Climate station details and precipitation data are summarized below:

Table 3: Climate Data Cornwall, ON (Climate ID: 6101874)			
Latitude: 45°00'56.082" N Longitude: 74°44'56.040" W		Elevation: 64.00 m ASL	
Year	Annual Total (mm)	Year	Annual Total (mm)
EC Normal, 1981-2010	1011.5	2011	915.1
2006	1174.1	2012	934.8
2007	824	2013	978.4
2008	1034	2014	990.1
2009	876.1	2015	926
2010	1001	2006-2015 Normal	965.36

In addition to the 1981-2010 EC normal data, annual precipitation totals from 2005-2015 were also used to calculate the 10-year normal precipitation using the most recent available data, to account for potentially changing climatic conditions. The 10-year normal precipitation between 2006 and 2015 was 965.36 mm, comparable with the 1981-2010 normal.

In their water balance calculations, BGC cited the Eastern Ontario Water Resource Study, prepared by CH2M Hill in 2001. The CH2M Hill study indicates an average evapotranspiration rate of 45.2% of the total amount of precipitation, with a water surplus of 54.8% of the total amount of precipitation. BGC/CH2M Hill further indicate that 94% of the water surplus will run off, while 6% of the surplus will infiltrate. For the purposes of consistency, these assumptions have been used in our water balance calculations for this assessment.

The theoretical quarry pumping requirements will be the total water surplus over the area of the quarry extraction area footprint, plus the surface water runoff from the surrounding catchment area. It is assumed that all water which falls directly on the quarry extraction area footprint will be captured in the quarry sump, and will not infiltrate/recharge. Based on these assumptions, the following water balance is calculated for the existing quarry footprint and the extraction areas of the proposed MacLeod III, MacLeod IV, and MacLeod V quarries. It is noted that under full extraction, the MacLeod I through V properties will all represent a single extraction area, with runoff directed to a single quarry sump.

Table 4				
Water Budget – Current Conditions				
	2013	2014	2015	EC Normal
Total precipitation (mm)	978.4	990.1	926	1011.5
Evapotranspiration (mm)*	442.2	447.5	418.6	457.2
Water Surplus, mm	536.2	542.6	507.4	554.3
Runoff (94% of Surplus), mm	504.0	510.0	477.0	521.0
Groundwater Recharge (6% of Surplus), mm	32.2	32.6	30.4	33.3
Area of Quarry Footprint (m ²)	329,000	329,000	329,000	329,000
Theoretical inflow to quarry sump from precipitation minus evapotranspiration directly to quarry footprint (m ³)	176,410	178,515	166,935	182,365
Catchment Area of Quarry, minus footprint (m ²)	720,000	720,000	720,000	720,000
Theoretical inflow to quarry sump from runoff from surrounding catchment area (m ³)	362,880	367,200	343,440	375,120
Total theoretical inflow to quarry sump (m ³)	539,290	545,715	510,335	557,485
Actual reported annual pumping from quarry sump (m ³)	817,007.5	862,963	786,407.6	-
Reported pumping as percentage of theoretical inflow (%)	151%	158%	154%	154.3%

It is noted that the above calculations underestimate the amount of water actually handled by the quarry sump. Reasons for this include the contribution of groundwater infiltration from the quarry walls to the quarry sump. Although observed seepage from quarry faces is minimal, significant seepage is observed along the west quarry wall from the plant to a distance of approximately 670 m south. This seepage area corresponds to the location of the drainage ditch into which the quarry sump discharges, which runs parallel to the west quarry face for a distance of approximately 670 m before turning west (at which point, seepage at the quarry wall ceases to be observed). The seepage is observed to occur at the contact of the Bobcaygeon and Upper Gull River formations. Given that the seepage is likely associated with the ditch into which the quarry discharges, some recirculation of water is likely occurring. Additional minor seepage points were observed in the southeast portion of the quarry.

Also, the above calculations may overestimate evapotranspiration within the quarry footprint. While the evaporation component is likely consistent with surrounding areas, plant-related transpiration is likely lower due to the general lack of vegetation within the quarry footprint.

Table 5	
Water Budget – Full Quarry Development	
	EC Normal 1981-2010
Total precipitation (mm)	1011.5
Evapotranspiration (mm)*	457.2
Water Surplus, mm	554.3
Runoff (94% of Surplus), mm	521.0
Groundwater Recharge (6% of Surplus), mm	33.3
Area of Quarry Footprint, including MacLeod II, III, IV, and V extraction areas (m ²)	2,397,800
Theoretical inflow to quarry sump from precipitation minus evapotranspiration directly to quarry footprint (m ³)	1,249,254
Catchment Area of Quarry, minus footprint (m ²)	861,000
Theoretical inflow to quarry sump from runoff from surrounding catchment area (m ³)	448,581
Total theoretical inflow to quarry sump (m ³)	1,697,835
Correction factor based on 2012-2015 data	154.3%
Corrected theoretical inflow to quarry sump (m ³)	2,619,759

It is noted that a Permit To Take Water will be required for all takings from the quarry sump. As quarry extraction continues, continued recording of dewatering volumes will allow for further refinement of dewatering estimates under full extraction.

2.5 Geology and Hydrogeology

The following sections provide a general description of the geology and hydrogeology of the subject site.

2.5.1 Surficial Geology

According to Chapman and Putnam (1984), the site is located in the Glengarry Till Plain physiographic region, characterized by undulating to rolling topography with morainic ridges and intermittent drumlins, with intervening clay flats and swamps. This description is generally consistent with our observations of the site. Based on surficial geology mapping completed by the Ontario Geological Survey, overburden soils in the vicinity of the site consist of glacial till.

An extensive review of surficial geology was provided in BGC's 2012 report for the MacLeod IV property. According to the BGC report, an area of relatively thin overburden soils/shallow bedrock is present in the central portion of the site, running in an east/west direction. The majority of this area is within the extraction footprint of the MacLeod I quarry.

BGC identified two glacial till units in the vicinity of the subject site: the Fort Covington Till (a dense boulder till with a silty sand matrix, generally on the order of 8-12 m thick) and the underlying Malone Till (a very dense and compact till with a sandy silt matrix). An intermittent gravel layer was identified between the two till units. In the southern portions of the site, the BGC report indicated that silt and clay deposits associated with the Champlain Sea were identified.

2.5.2 Bedrock Geology

In addition to a review of the available literature, the presence of the MacLeod I Quarry has allowed for a detailed assessment of bedrock on-site. Bedrock units identified at the site include the Bobcaygeon Formation (uppermost unit), underlain by the Gull River Formation (accounting for the majority of rock quarried at the site), underlain by the Rockcliffe Formation. Bedrock in the area of the subject site is observed to dip in a southerly direction from the central portion of the site.

The Bobcaygeon Formation at the site consists of medium to dark brown, microcrystalline to fine crystalline, thick to massively bedded fossiliferous limestone. Limestone of the Bobcaygeon Formation is observed in the northwest corner of the active extraction area on the MacLeod I property, with a thickness of approximately 4.5 m. The lower contact of the Bobcaygeon Formation with the underlying Gull River formation is described by BGC as sharp and slightly irregular.

Limestone of the Gull River Formation composes the majority of the active quarry profile. The Gull River limestone is commonly divided into an upper and lower member. The upper 9 m of the Gull River Formation at the site consists of light grey microcrystalline to finely crystalline, thin bedded limestone with shaly partings. The lower portion of the Gull River Formation at the site is described as finely crystalline, thinly to thickly bedded limestone, medium to dark grey in colour, with intraclastic beds and common stromatolite features. Greenish grey to brown beds of finely crystalline dolostone are observed in the lower Gull River Formation.

Based on elevations, the Shadow Lake and Rockcliffe formations may be exposed at the base of the quarry sump. The Shadow Lake formation is reportedly difficult to discern in Eastern Ontario, and when encountered, consists of sandy dolostone with shaly partings and interbedded quartz sandstone, and varies in thickness from 2.5 to 2.8 m. The Rockcliffe Formation consists of interbedded quartz sandstone and shale, and was reportedly encountered in several test wells at the site.

2.5.3 Pop-Ups

The phenomenon referred to as a “pop-up” occurs as a result of stress relief observed in quarry floors following the removal of overlying strata and the corresponding stress exerted. Pop-ups have historically been documented on the quarry floor at the MacLeod I property, and are discussed in depth in the BGC report (BGC, 2011). Pop-ups are not expected to significantly affect site hydrogeology.

2.5.4 Regional Hydrogeology

In general, regional hydrogeology in the vicinity of the site is considered to be a reflection of local topography. Regional groundwater flow is therefore expected to be in a southerly direction towards the St. Lawrence River.

For specific details on regional hydrogeology, a search of the water well database maintained by the Ontario Ministry of the Environment and Climate Change (MOECC) was conducted for properties within 500 m of the site. Given the locations of MacLeod III and MacLeod V on opposite sides of the site, the 500 m offset was developed based on the entire footprint of the MacLeod Quarry properties for the purpose of obtaining a site-wide overview of well record data. A total of 82 MOECC well records were returned within this search area. Well locations are shown on Figure 2. A summary of well record data is provided in Table 2.

A 500 m offset was considered appropriately conservative based on BGC’s conclusion that the radius of effect of the quarry on surrounding wells was approximately 150 m in the bedrock aquifer and 35 m in the overburden aquifer. This conclusion is revisited in subsequent sections based on current data.

It is noted that some variability in data quality is inherent in MOECC well records. For instance, wells where the exact location is not known beyond lot and concession number are plotted in the middle of the given lot on MOECC’s online mapping tool. Furthermore, descriptions of a given geological formation may vary significantly between drillers. McIntosh Perry has accounted for these features whenever possible, and overall, accounting for its limitations, it is our opinion that the MOECC well record data set provides a useful tool for understanding regional hydrogeology in the vicinity of the site.

Based on the water well record review, generalized stratigraphy in the vicinity of the subject site consists of topsoil or loam, underlain by clay, underlain by material resembling glacial till (alternately described as till, hardpan, or a combination of clay, sand, and boulders), underlain by limestone bedrock. An intermittent gravel layer was identified at various depths within the glacial till layer or between the till and the bedrock. Where encountered, the gravel layer varied in depth between 7.6 and 19.2 m, and varied in thickness between 0.6 and 7.9 m. The gravel layer was not spatially contiguous in the areas where it was identified.

Water was generally reported as encountered within the limestone bedrock layer, at depths between 8.8 and 35.1 m. Based on elevation contours in the vicinity of the site, ground surface elevation varies between approximately 55 and 75 m ASL, corresponding to water-bearing intervals between 20 and 65 m ASL. Static water levels were between 0.3 and 24.8 m below ground surface, and were generally less than 10 m below ground surface. Reported recommended pumping rates varied between 14 and 364 L/min, and were generally less than 60 L/min.

A review of the water well record data indicated no specific correlation between recommended pumping rates and elevation of water-bearing interval. However, when considered in terms of stratigraphy, water-bearing intervals were generally encountered in the upper/shallow limestone bedrock. It is noted that water wells were completed where water was encountered in sufficient quantities on a well-by-well basis, not necessarily to target any specific fracture zone or stratigraphic interval.

Detailed groundwater contour mapping was not completed using MOECC well records, given the temporal variability in water level measurements and the limitations inherent in interpreting ground surface elevations from topographic mapping contours in lieu of an elevation survey. However, the effect of the development of the MacLeod I quarry on surrounding water wells appears to be limited. This may be accounted for by the fact that some of the wells were drilled before the quarry was as fully developed as it is now, and by the separation distance between certain wells and the quarry limits. However, as discussed above, the fact that the majority of wells are completed in shallower formations with better water production, as opposed to the deeper formations with limited water production in which the quarry is completed, likely accounts for the limited effect of the quarry on surrounding wells.

2.5.5 Site Hydrogeology

In addition to the water well record data discussed above, significant site-specific data are available in the form of test wells drilled on the MacLeod Quarry properties by BGC and GRI at the direction of Cornwall Gravel, as well as water supply wells drilled on-site to service quarry buildings and operations. Stratigraphic logs were available for review, and are appended to this report. Furthermore, a groundwater level monitoring program has been in place at the site since 1998, and water level data are appended to this report.

The drilling methods and construction details of the test wells and water supply wells, along with water level measurements and historic hydraulic conductivity testing results, are discussed in depth in Section 3.1 below (On-Site Monitoring Network) and are summarized in the appendices of this report. In general, test wells were drilled and completed at depths that would allow for the assessment of hydrogeological conditions at an elevation corresponding to the maximum depth of the quarry, as well as at depths where surrounding water wells were likely to be screened. As such, several wells drilled under the supervision of GRI in 1994 were instrumented with piezometers at multiple depths intended to isolate fracture zones at these respective intervals. Monitoring well TW8 was also specifically drilled to intercept the shallow bedrock interval in which surrounding water wells were completed.

Based on conditions encountered during drilling and on the results of hydraulic conductivity testing undertaken by GRI and BGC, areas of higher hydraulic conductivity were encountered in the shallow bedrock near the overburden interface. Hydraulic conductivity at depth was generally lower. This is reflective of seepage observed on the quarry face, as well information obtained from surrounding well records. Hydraulic conductivities reported by BGC varied between 8×10^{-5} m/s and 4×10^{-9} m/s.

2.5.6 Recharge and Discharge Areas

In general, groundwater recharge via precipitation and infiltration is interpreted to be occurring in upland areas, while groundwater discharge is interpreted to occur in low/wet areas. The quarry on the MacLeod I property is interpreted to represent a local groundwater discharge area, with groundwater from the shallow bedrock observed to be discharging at the quarry faces. It is noted that the majority of water collected in the quarry sump is considered to be surface water/runoff.

Detailed investigations have not been completed specifically regarding recharge or discharge conditions in the vicinity of the South Raisin River, which crosses the southwest portion of the MacLeod III property. However, based on our observations and on site topography, the South Raisin River may be considered a localized groundwater discharge area for groundwater in shallow overburden soils. It is noted that the MacLeod Quarry has been in operation for several decades, and water pumped from the quarry eventually reaches the South Raisin River via surface drainage features. It is possible that a component of this pumped water recharges upgradient of the South Raisin River and enters the river as baseflow. If pumping practices are not anticipated to change as part of the proposed quarry development, the impacts on the South Raisin River are anticipated to be minimal in the short to medium term horizon.

The overburden soils identified at the site, i.e. glacial tills with a matrix of coarser-grained materials such as sand, as well as the gravel layer observed between the Malone and Fort Covington Tills, are interpreted to be conducive to groundwater recharge. However, in portions of the subject site, an intervening layer of silty clay or glacial till with a silty clay matrix has been observed overlying the bedrock. As such, it appears that groundwater recharge to the shallow bedrock/overburden interface zone utilized by many of the surrounding wells may be occurring on topographical high areas or areas with thinner overburden soils located in upland areas off-site. Further site-specific details are provided in subsequent sections.

2.5.7 Hydrogeologically Sensitive Features

There are currently no significant wetlands or Areas of Natural and Scientific Interest (ANSIs) in the vicinity of the Site which may be considered hydrogeologically sensitive features. It is noted that the South Raisin River, which crosses the southwest portion of the MacLeod III property, may be considered a groundwater discharge area and/or a receiver of surface water flow originating as pumped water from the quarry. If pumping practices are not expected to change significantly following the development of the MacLeod III and V properties, no adverse impacts on the South Raisin River are expected. Based on a review of overburden soil conditions, wetland/poorly drained areas in the vicinity of the quarries are interpreted to be a result of poor surficial drainage and low-permeability underlying soils, and the interaction of groundwater in the bedrock with wetland features is expected to be negligible.

The long-term effects on surface water bodies, wetlands, and surrounding water wells are discussed in subsequent sections of this report.

2.5.8 Potential Sources of Contamination

Detailed field surveys of the area were conducted in combination with a review of maps, zoning information, and the completion of hydrogeological field programs for the subject property. The site and the adjacent lands are located predominantly in a rural area, with residential and commercial development along major roads, including automotive service garages and an automotive salvage yard. Although these properties do have the potential to result in environmental impacts, their separation distances from the MacLeod quarry properties and their limited areal extents relative to quarry operations are considered to limit the degree of potential impacts.

Potential sources of contamination on the subject property include nutrients from existing septic systems and farming operations, and hydrocarbons from blasting agents, lubricants, and fuels used on-site. Hydrocarbon contamination is considered to be limited by best management practices for blasting, fuelling, and equipment maintenance used on-site. A 30 m buffer will be maintained between farming operations and the quarry face at all times.

All water which is discharged from the subject site undergoes regular water quality testing to ensure that off-site water quality meets regulatory requirements; this practice is expected to continue for the development of the MacLeod III and V properties.

3.0 SITE INVESTIGATION

3.1 Existing Monitoring Network

Since 1994, an extensive network of groundwater monitoring wells has been drilled on the MacLeod Quarry properties, for the purposes of ARA applications for the MacLeod II and IV properties, and for the purposes of providing long-term groundwater level monitoring at the site. Well locations are shown on Figure 4. A brief description of the wells comprising the existing monitoring network is provided below. Well logs are provided in Appendix A.

3.1.1 MacLeod House

The MacLeod House well was historically present adjacent to the former MacLeod residence on the MacLeod I quarry property. This well was reportedly initially 29.6 m deep, but conversations with the well driller indicated that it had been deepened twice since drilling and was 43.7 m deep in 1995. It is our understanding that this well has since been mined out by quarry operations.

3.1.2 Test Well 1 (TW1)

Test Well 1 was located at the southeast corner of the MacLeod I property, and was drilled under the supervision and direction of GRI in 1994. According to BGC's report, the well was drilled using water rotary methods. Approximately 4.57 m of overburden was encountered, consisting of 1.5 m of clay overlying silty sand till. Groundwater was encountered in the overburden at a depth of approximately 3 m. A length of steel casing (6.1 m) was grouted in place using cement grout, sealing off the overburden layer and shallow bedrock (overburden interface aquifer), and the hole was advanced into bedrock.

Competent limestone of the Bobcaygeon Formation was encountered from 4.57 to 8.53 m (approximately 48.9-52.8 m ASL), and the borehole was advanced through the upper and lower Gull River Formations to a depth of 60.96 m (to approximately -3.6 m ASL). Distinct soft zones were encountered at various depths as noted on the borehole log, appended to this report, and the cumulative well yield upon completion of the well was less than 9 L/min, suggesting that no significant water-bearing fractures were encountered.

In 1995, multi-level piezometers TW1-1 (deep), TW1-2 (intermediate), and TW1-3 (shallow) were installed in TW1 in order to isolate specific intervals where soft zones/potential fractures were encountered. These intervals are listed in Table 1, appended to this report. Slug testing of these specific intervals was completed, and slug test results are summarized in Table 4. Groundwater level monitoring in the multi-level piezometers is ongoing.

Test Well 1 was mined out by quarry operations between 2002 and 2003.

3.1.3 Test Well 2 (TW2)

Test Well 2 is located on the west-central portion of MacLeod III, and was drilled under the supervision and direction of GRI in 1994. The well was drilled using water rotary methods. Approximately 2.13 m of overburden was encountered, consisting of bedrock slabs interbedded with silty sand. Groundwater was encountered in

shallow bedrock at a depth of approximately 3 m. A length of steel casing (6.1 m) was grouted in place using cement grout, sealing off the overburden interface aquifer, and the hole was advanced into bedrock.

Competent limestone of the Bobcaygeon Formation was encountered from 2.13 to 4.27 m, and the borehole was advanced through the upper and lower Gull River formations to a depth of 60.96 m. Distinct soft zones were encountered at various depths as noted on the borehole log. Groundwater seepage was noted at depths of 34.14 m, 46.63 m, and 46.84 m, and the total yield of the well upon completion was less than 35 L/min.

As part of this work program, TW2 was instrumented with three (3) multi-level piezometers on December 20, 2016 by Bourgeois Well Drilling. The screened intervals of these piezometers are listed in Table 1, appended to this report, and are intended to capture water-bearing zones noted during the initial drilling.

3.1.4 Test Well 3 (TW3)

Test Well 3 was located along the western boundary of the MacLeod III property to the north of TW2, and was drilled under the supervision and direction of GRI in 1994. According to BGC's report, the well was drilled using water rotary methods. Approximately 11.28 m of overburden was encountered, silty sand till transitioning to dense sandy silt with depth. Groundwater was encountered in the overburden at a depth of approximately 3 m. A length of steel casing (12.8 m) was grouted in place using cement grout, sealing off the overburden layer and shallow bedrock (overburden interface aquifer), and the hole was advanced into bedrock.

Competent limestone of the Bobcaygeon Formation was encountered from 11.28 to 14.33 m (54.1 to 57.2 m ASL), and the borehole was advanced through the upper and lower Gull River Formations to a depth of 65.84 m (2.63 m ASL), and into the underlying Rockcliffe Formation, encountered from 65.84 to 67.06 m (2.63 to 1.41 m ASL). Distinct soft zones were encountered at various depths as noted on the borehole log, appended to this report, and the cumulative well yield upon completion of the well was less than 30 L/min, suggesting that no significant water-bearing fractures were encountered. Groundwater seepage was noted at 40.54 m BGS (28.46 m ASL) and at 57.20 and 58.52 m BGS (8.76 and 7.48 m ASL), with a hydrogen sulphide odour noted in water from the upper fracture, and water from the lower fracture having a black appearance.

In 1995, multi-level piezometers TW3-1 (deep), TW3-2 (intermediate), and TW3-3 (shallow) were installed in TW3 in order to isolate specific soft zones. These intervals are listed in Table 1, appended to this report. Slug testing of these specific intervals was completed, and slug test results are summarized in Table 4. Groundwater level monitoring in the multi-level piezometers is ongoing.

3.1.5 Test Well 4 (TW4)

Test Well 4 is located at the southeast corner of the MacLeod III property, and was drilled under the supervision and direction of GRI in 1994. According to BGC's report, the well was drilled using water rotary methods. Overburden soils consisted of approximately 5.18 m of silty sand overlying approximately 0.5 m of sand and gravel. Groundwater was encountered in the overburden at a depth of approximately 2 to 3 m (54.8 to 55.8 m ASL), with the sand and gravel layer producing approximately 13 to 23 L/min. A length of steel casing (6.1 m) was grouted in place using cement grout, sealing off the overburden layer and shallow bedrock (overburden interface aquifer), and the hole was advanced into bedrock.

Competent limestone of the Bobcaygeon Formation was encountered from 5.18 to 12.8 m (45.0 to 52.62 m ASL), and the borehole was advanced through the upper and lower Gull River Formations to a depth of 60.96 m (-3.16 m ASL). Distinct soft zones were encountered at various depths as noted on the borehole log, appended to this report, and the cumulative well yield upon completion of the well was less than 14 L/min, suggesting that no significant water-bearing fractures were encountered at depth.

In 1995, multi-level piezometers TW4-1 (deep), TW4-2 (intermediate), and TW4-3 (shallow) were installed in TW4 in order to isolate specific soft zones. These intervals are listed in Table 1, appended to this report. Slug testing of these specific intervals was completed, and slug test results are summarized in Table 4. Groundwater level monitoring in the multi-level piezometers is ongoing.

3.1.6 Test Well 5

Test Well 5 was drilled on the northwestern side of the MacLeod IV property in February 2, 2000, by Gilles Bourgeois Well Drilling. Overburden soils consisted of 11.9 m of glacial till (extending to 59.9 m ASL). The well was advanced to a total depth of 23.8 m (48.0 m ASL) by rotary methods, following which the well was developed with a cable tool rig. A final well yield of 20 IGPM (approximately 91 L/min) was reported by the driller. This well was cased to 12.5 m and left as an open hole between 12.5 and 23.8 m (48.0 to 59.3 m ASL).

3.1.7 Test Well 6-1

Test Well 6-1 was drilled near the southern limit of the MacLeod I property in June 2005, with the intention of replacing TW1, which had been mined out by quarry operations. Overburden soils consisted of glacial till to a depth of 5.18 m (54.39 m ASL). The well was advanced to a final depth of 91.44 m (-31.87 m ASL), with a reported well yield of 2 IGPM (9.1 L/min). The well was cased to 7.3 m, effectively isolating the overburden/shallow bedrock interface aquifer at this location.

3.1.8 Test Well 6-2

Test Well 6-2 was drilled adjacent to Test Well 6-1, for the purpose of monitoring groundwater conditions in the overburden/bedrock interface aquifer. Drilled by Bourgeois in June 2011, this well (as with Test well 7-2 and Test Well 8) was drilled using methods consistent with domestic water wells in the surrounding area. The well was cased to 6 m, with the casing seated in the upper bedrock, and drilled to a total depth of 12.1 m (47.47 m ASL), and developed for several hours. The well yield was reportedly 114 L/min.

3.1.9 Test Wells 7-1 and 7-2

Test Wells 7-1 and 7-2 were drilled in the southeast corner of the MacLeod IV property. Initially, TW7-1 (deep) was drilled, with TW7-2 (shallow) subsequently drilled 10 m away. Approximately 7.63 m of glacial till overburden were encountered. TW7-1 was cased to 9.7 m and drilled to 79.24 m (-15.21 m ASL), and yielded approximately 9 L/min upon completion. TW7-2 was cased through the overburden only (leaving the shallow bedrock portion of the overburden/bedrock interface aquifer uncased), drilled to 12.19 m (51.38 m ASL), developed for three hours following drilling, and yielded approximately 90 L/min.

3.1.10 Old Shop Well

The Old Shop well, located on the northern portion of the MacLeod I property, was reportedly drilled in the 1980s. The well was drilled to a depth of 91.4 m (-16.89 m ASL), with an estimated yield of 4 to 9 L/min. No further information on this well was available.

3.1.11 New Shop Well

The New Shop Well is located on the northern portion of the MacLeod I property, and was drilled in 2006. Approximately 14.02 m of overburden was encountered, consisting of 12.8 m of glacial till (to 61.75 m ASL) underlain by a layer of gravel 1.22 m in thickness (to 60.53 ASL). The well was cased through the overburden and drilled into bedrock to a total depth of 30.48 m (44.07 m ASL). Initially, a well yield of less than 2 L/min was reported. However, after 3 days of development (surging) with a cable tool rig, the well eventually produced 40 L/min.

3.1.12 Scale House Well

The Scale House Well was reportedly drilled in 2004. Approximately 14 m of overburden was encountered (to 59.98 m ASL), consisting of 3 m of fill underlain by glacial till. The well was cased through overburden and advanced into bedrock to a depth of 24.4 m (49.58 m ASL). The reported well yield was 60 L/min, inferred to be predominantly from the overburden/shallow bedrock interface aquifer.

3.1.13 Lab Well

The Lab Well was drilled in 2011. Approximately 14.6 m of overburden was encountered, consisting of 13.1 m of glacial till (to 60.27 m ASL) underlain by 1.5 m of gravel (to 58.77 m ASL). The well was cased through the overburden to a depth of 14.6 m and advanced into bedrock to a depth of 18.3 m (55.07 m ASL). The reported well yield was 36 L/min, inferred to be predominantly from the overburden/shallow bedrock interface aquifer.

3.1.14 Test Well 8

TW8 was drilled in 2016, and is located in the northwest corner of MacLeod V, along Headline Road. Approximately 14.9 m of overburden was encountered, consisting of 9.7 m of glacial till (to 62.89 m ASL) underlain by 5.2 m of gravel (to 57.69 m ASL). The well was cased through the overburden to a depth of 14.9 m and advanced into bedrock to a depth of 18.9 m (53.69 m ASL). The reported well yield was 9.1 L/min. However, the construction details of TW8 are consistent with surrounding domestic water wells completed in the overburden/shallow bedrock interface aquifer.

The monitoring network, as shown above, provides coverage of the overburden/bedrock interface aquifer in which the majority of surrounding water supply wells are screened, as well as deeper bedrock aquifer units extending to depths below the proposed maximum extraction limit of the MacLeod III and V quarries. Additional monitoring wells were installed as a component of our 2016 investigation, some of which were screened in the gravel unit encountered between the Fort Covington and Malone tills. The purpose of the 2016 wells was to provide additional coverage in areas where data gaps were identified or where monitoring data

would be useful to assess quarry impacts, and to provide pumping and observation wells for pump tests specific to the MacLeod III and V properties.

3.2 2016 Drilling and Monitoring Well Installation Program

Between August and October 2016, Cornwall Gravel and McIntosh Perry supervised the installation of eight (8) additional monitoring wells, for the purpose of characterizing hydrogeological conditions on the MacLeod III and V properties. Details of the drilling and monitoring well installation program are detailed below. Borehole logs are appended to this report.

3.2.1 TW9-1 and TW9-2

TW9-1 was drilled on August 29, 2016, along the eastern site boundary of MacLeod III, by Bourgeois Well Drilling of Crysler, Ontario, under the supervision of McIntosh Perry and Cornwall Gravel personnel. The well was drilled using air rotary methods. Stratigraphy consisted of overburden (silty clay with some sand and gravel, inferred glacial till) to a depth of 12.8 m (54.43 m ASL), followed by limestone bedrock to a depth of 109.73 m below existing grade (-42.5 m ASL). The purpose of this well was to represent hydrogeological conditions along the entire depth of the proposed quarry. Even with proposed deepening of the existing license being considered by Cornwall Gravel, the well depth of 109.73 m is deeper than the proposed lower limits of the quarry. The well was cased through the overburden layer and into the shallow bedrock to a depth of 13.4 m. No significant water-bearing zones were encountered.

TW9-2 was drilled adjacent to TW9-1 to assess hydrogeological conditions at the shallow bedrock interval in which surrounding water wells are screened. The well was drilled on August 30, 2016, using air rotary methods, by Bourgeois. The well was cased to 13.4 m and drilled into bedrock to a total depth of 15.24 m. On October 11, 2016, the well was deepened to 18.29 m (48.77 m ASL) and developed using a cable tool drill rig. Upon completion, the reported well yield was less than 5 L/min, according to Bourgeois.

3.2.2 TW10

TW10 was drilled on August 31, 2016, on the northeast corner of the MacLeod V property, by Bourgeois under the supervision of Cornwall Gravel personnel. The well was drilled using air rotary methods. The purpose of this well was to represent hydrogeological conditions along the entire depth of the proposed quarry, and as with TW9-1, the well was drilled deeper than the proposed lower limits of the quarry. Stratigraphy consisted of glacial till consisting of a silty clay to sand matrix with gravel and boulders, with limestone bedrock encountered at 11.58 m (58.73 m ASL). The hole was cased through overburden to a depth of 13.7 m, and drilled into bedrock to a depth of 111.86 m (-41.55 m ASL). Upon completion, the reported well yield was approximately 23 L/min, according to Bourgeois.

3.2.3 TW11-1, TW11-2, and TW11-3

TW11-2 was drilled on August 30, 2016, on the northwest corner of the MacLeod III property, by Bourgeois under the supervision of Cornwall Gravel personnel. The well was drilled using air rotary methods. The purpose of this well was to intercept the shallow bedrock interval in which surrounding water wells were screened.

Stratigraphy consisted of till to 6.7 m (66.76 m ASL), underlain by a gravel layer between 6.7 and 8.8 m (66.76 to 64.66 m ASL), underlain by silt to 16.2 m (57.26 m ASL). The hole was cased to 16.3 m, and drilled into bedrock to a total depth of 19.2 m. On October 11, 2016, the well was deepened to 19.35 m (54.11 m ASL) and developed using a cable tool drill rig. Upon completion, the reported well yield was approximately 91 L/min, according to Bourgeois.

TW11-1 was drilled on October 3 and 4, 2016, by Bourgeois under the supervision of Cornwall Gravel personnel. The well was drilled using mud rotary methods through overburden and air rotary methods through bedrock. The purpose of this well was to represent hydrogeological conditions along the entire depth of the proposed quarry, and as with TW9-1 and TW10, the well was drilled deeper than the proposed lower limits of the quarry. Overburden stratigraphy was consistent with TW11-2. The well was cased through overburden to a depth of 20.12 m, and the well was drilled through bedrock to a total depth of 116.4 m (-42.87 m ASL). Upon completion, the reported well yield was less than 5 L/min, according to Bourgeois.

TW11-3 was drilled on October 19, 2016, by CCC Geotechnical and Environmental Drilling (CCC) of Ottawa, Ontario, under the supervision of Cornwall Gravel personnel. The well was drilled using water rotary methods, with soil samples obtained by a split spoon sampler. The purpose of this well was to intercept the gravel layer identified in TW11-2. Soil sampling confirmed that stratigraphy was consistent with TW11-2.

The well was drilled to a total depth of 9.1 m (64.31 m ASL), with the interception of the gravel layer confirmed by split spoon samples. A 2" PVC monitoring well was installed in TW11-3, with a screened interval of 6.1-9.1 m. Instead of a sand pack, the gravel formation caved around the monitoring well screen upon the withdrawal of the casing to a depth of 5.49 m. The annulus was backfilled with bentonite pellets to ground surface. The monitoring well was equipped with a 4" square steel stickup protective casing.

3.2.4 TW12

TW12 was drilled on October 18 and 19, 2016, by CCC, under the supervision of McIntosh Perry and Cornwall Gravel personnel. The purpose of the well was to assess the lateral extent of the gravel layer observed at TW11-2, and to assess groundwater conditions in the shallow bedrock aquifer. The well was initially drilled using hollow-stem augers, and was advanced using water rotary methods when the presence of a bouldery till layer prevented further augering. Samples were obtained by a split spoon sampler. Stratigraphy consisted of glacial till, consisting of a silt to sandy silt matrix with gravel and boulders. The gravel layer identified in TW11-2 and 11-3 was not identified in TW12.

Bedrock was encountered at a depth of 14.3 m (57.74 m ASL), and the well was advanced into bedrock using a wireline diamond coring system to a depth of 18.24 m (53.80 m ASL). A 2" PVC monitoring well was installed in TW12, with a screened interval of 15.19 to 18.24 m. The borehole annulus above the screen was backfilled with bentonite pellets or with native material which caved upon the removal of the casing. The monitoring well was equipped with a 4" square steel stickup protective casing.

3.2.5 TW13

TW13 was drilled on October 11, 2016 by Bourgeois under the supervision of Cornwall Gravel personnel. The well was drilled along the eastern boundary of the MacLeod V property, for the purpose of providing additional assessment of groundwater conditions in the shallow bedrock aquifer between TW9 and TW10. The well was drilled using air rotary methods. Stratigraphy consisted of till with a 0.3 m layer of gravel observed overlying the limestone bedrock. Bedrock was encountered at 14.3 m (58.42 m ASL), and steel casing was advanced to 15.24 m and cemented in place. The well was drilled to 18.29 m. On October 12, the well was developed and deepened to 21.34 m (51.38 m ASL) with a cable tool rig. The well yielded 22.8 L/min according to Bourgeois Well Drilling.

3.3 Groundwater Level Monitoring

Groundwater level monitoring has been undertaken at on-site monitoring wells since 1995. Wells have been added to the groundwater level monitoring program as they have been drilled. In addition to providing supporting data for the current and previous quarry expansion applications under the Aggregate Resources Act, water level data has been used to support Permit To Take Water (PTTW) applications for the site and to assess long-term hydrogeological trends at the site and potential well interference complaints.

Water level data are summarized in Table 3, appended to this report. In the majority of cases, impacts of quarry dewatering on surrounding monitoring wells has been minimal. Variations in water levels are consistent with varying seasonal and annual climatic conditions and, in the case where the wells monitored are used for water supply purposes as well (i.e. New Shop Well, Old Shop Well, Lab Well, and Scale House Well), by water usage.

Based on the results of the December 2016 groundwater monitoring event, groundwater elevations at the site can be summarized as follows:

- Groundwater levels across the entire property vary between 1.1 m and 33.48 m BGS (35.39 and 71.84 m ASL).
 - Groundwater elevations in wells completed in the shallow bedrock unit (TW3-2, TW3-3, TW4-2, TW4-3, TW5, TW6-2, TW7-2, New Shop Well, Lab Well, Scale House Well, TW8, TW9-2, TW11-2, TW12, and TW13) vary between 1.1 and 14.03 m BGS (44.1 and 71.84 m ASL)
 - Groundwater elevations in wells completed in the deep bedrock unit (TW3-1, TW4-1, TW6-1, TW7-1, Old Shop Well, TW9-1, TW10, TW11-1) vary between 3.04 and 33.48 m BGS (35.39 and 67.72 m ASL)
 - The groundwater elevation in TW11-3, completed in the overburden, was 2.09 m BGS (71.32 m BGS)
- Groundwater levels at the MacLeod III property (TW8, TW9-1, TW9-2, TW10, and TW13) vary between 3.04 m and 19.53 m BGS (48.15 and 68.11 m ASL).

- Groundwater elevations in wells completed in the shallow bedrock unit (TW8, TW9-2, and TW13) vary between 5.18 and 7.13 m BGS (60.57 and 68.11 m ASL)
- Groundwater elevations in wells completed in the deep bedrock unit (TW9-1 and TW10) vary between 3.04 and 19.53 m BGS (48.15 and 67.72 m ASL)
- Groundwater levels at the MacLeod V property (TW3-1, TW3-2, TW3-3, TW4-1, TW4-2, TW4-3, TW11-1, TW11-2, TW11-3, and TW12) vary between 1.1 m and 33.48 m BGS (35.39 and 71.84 m ASL).
 - Groundwater elevations in wells completed in the shallow bedrock unit (TW3-2, TW3-3, TW4-2, TW4-3, TW11-2, and TW12) vary between 1.1 and 14.03 m BGS (44.1 and 71.84 m ASL)
 - Groundwater elevations in wells completed in the deep bedrock unit (TW3-1, TW4-1, and TW11-1) vary between 7.93 and 33.48 m BGS (35.39 and 66.04 m ASL).
 - The groundwater elevation in TW11-3, completed in the overburden, was 2.09 m BGS (71.32 m ASL)

It is noted that prior to 2016, ground surface and top-of-casing elevations at the wells had been surveyed at different times, and in review of background data in support of this report, inconsistencies were observed. As such, all wells were re-surveyed in 2016, and stick-ups were confirmed to correlate top-of-casing/top-of-pipe and ground surface elevations. All historical data presented here have been corrected to reflect the 2016 elevations and may be inconsistent with historical measurements in reports by others prior to re-surveying. An exception is TW1, which was destroyed prior to 2016 and could not be re-surveyed.

Based on groundwater elevations measured in December 2016, groundwater contour mapping was completed for the shallow bedrock and deep bedrock units. Contour mapping indicated that groundwater elevation at the site generally reflects ground surface topography, with groundwater flowing in a southerly or southwesterly direction. Infiltration is therefore interpreted to be occurring in upland areas to the north of the site, with regional groundwater flow towards the St. Lawrence River further to the south. Groundwater flow patterns at the site are interpreted to be highly influenced by dewatering operations from the quarry. However, based on mapping, the drawdown effects of quarry dewatering are interpreted to be limited and confined to the subject site.

3.4 Hydraulic Conductivity Testing

3.4.1 Hydraulic Conductivity Testing By Others

An extensive hydraulic conductivity testing program was completed between 1995 and 2011 as a part of investigations by GRI and BGC at the subject site. The testing program included pump tests (step-discharge tests and constant discharge tests) at TW1, TW2, TW3, and TW4 prior to the installation of multi-level piezometers in TW1, TW3, and TW4, as well as slug tests at the individual piezometers installed in TW1, TW3 and TW4. A summary of the results of the hydraulic conductivity testing program is provided in Table 4, appended to this report.

In general, the hydraulic conductivity testing results were reflective of the well yields reported during drilling. Although some variability was observed in the hydraulic conductivity of the tested wells, the results of both the pumping tests and the slug tests indicated relatively low hydraulic conductivity in wells where the overburden/shallow bedrock interface aquifer was cased off or otherwise unavailable for testing. This is specifically reflected in the transmissivity results from TW7-2, the only well historically tested, which was completed specifically to intercept the overburden/shallow bedrock interface aquifer, which were significantly higher than the majority of other wells tested. Of the wells tested where the overburden/shallow bedrock interface aquifer was cased off, the highest hydraulic conductivity was observed at TW2 and TW4, based on pump tests completed on the entire open hole. Fractures along the entire open hole profile were available to contribute to the pumped volume at these wells, and as such, the transmissivity of the well profile as a whole will be controlled by the hydraulic conductivity of the fractures within the profile with the highest conductivity.

In reviewing the drawdown curves and observations made during the initial pump tests, specific information is available regarding fractures and fracture zones:

- Drawdown at TW1 accelerated below 12.00 m BGS (48.40 m ASL), suggesting a hydrogeological boundary at this depth.
- Cascading was noted during pump tests at TW2 when the water level was drawn down below 35.98 m BGS (27.12 m ASL), suggesting a contributing fracture at this location. Cascading at other intervals has been noted in TW2 when taking water level measurements.
- Cascading was noted during the pump test at TW4 when the water level was drawn below 11.72 m BGS (47.38 m ASL), suggesting a contributing fracture at this location.

The fourth pumping test completed at TW2 was completed following the installation of multi-level piezometers at TW1, TW3, and TW4, and water levels in these locations were monitored throughout the test. The most significant fluctuation was a drawdown of 0.48 m, observed in TW4-1 (screened interval 34.8 to 61 m BGS, -4.9 to 21.3 m ASL), located approximately 830 m to the southeast of TW2. Given that the drawdown effect was observed during pumping and water levels were observed to recover following the cessation of pumping, it can be reasonably concluded that some hydrogeological connection exists between fractures from which water was pumped during the testing of TW2, and fractures within the screened interval of TW4-1. The design of pump tests completed as part of the 2016 investigation is intended to provide further information on such connections at the site and their potential to be affected by quarry operations.

It is noted that the pump test results in BGC's report for MacLeod IV are reported in terms of transmissivity (T , m^2/day), whereas slug tests are reported in terms of hydraulic conductivity (K , m/s). Given that:

$$T = K \times b$$

Where b is the thickness of the water bearing interval tested (m), testing results are summarized in Table 4 in terms of both K and T . Where not specifically stated in BGC's report, b is assumed to represent the screened interval of multi-level piezometers and the open hole interval for wells without piezometers installed.

Hydraulic conductivity and transmissivity results obtained by the historical testing programs varied over several orders of magnitude, reflecting the natural inherent variability of hydraulic conductivity testing in fractured rock formations and the contributions of individual fractures at the wells. Generally, hydraulic conductivity values were between 10^{-5} and 10^{-9} m/s, with the majority of values in the 10^{-7} to 10^{-8} m/s range.

3.4.2 2016 Hydraulic Conductivity Testing Program

Two (2) pump tests were completed as part of the 2016 hydraulic conductivity testing program. The purpose of these tests was to assess site-specific hydrogeological conditions at the MacLeod III and V quarries respectively, and to determine the potential for effects to surrounding hydrogeological units and water wells based on the dewatering of a vertical interval roughly corresponding to or exceeding the proposed total extraction depth of the quarries.

The first pumping test was completed on November 8, 2016. TW10 was selected as the pumping well, and TW8, TW9-1, TW9-2, and TW13 were selected as observation wells given their proximity and orientation with respect to TW10. Manual water level measurements were taken at all wells prior to the start of the test, following which all wells were instrumented with automatic groundwater level loggers (Solinst Levelloggers). A barometric logger was kept at TW10 to compensate for atmospheric conditions. The level loggers were set to record at 15 second intervals throughout the duration of the test and contained sufficient memory to record groundwater levels beyond the anticipated 95% recovery time of the test.

The pump was installed at TW10 by Bourgeois at a depth of approximately 91 m. Following the installation of the pump, the water level was allowed to stabilize for approximately 45 minutes, at which time a static water level of 3.564 m below top of casing (BTOC) was measured and the level logger was installed at approximately 80 m BTOC. The pump was started at approximately 11:14 AM, and ran at a relatively constant rate of 12-14 L/min. Minor variations in the pump flow rate were observed due to the significant head change associated with the drawdown in the well. Manual water level measurements were taken at the pumping well throughout the test. After 311 minutes of pumping, a water level of 19.96 m BTOC was observed, corresponding to a drawdown of 16.396 m.

After 311 minutes of pumping, at approximately 4:25 PM, the pump was shut down and water level recovery was monitored. Based on manual recovery data, after 36 minutes, the water level in TW10 was 8.265 m BTOC, corresponding to a recovery of 71%. Logger data could not be recovered for this well, so the exact time to 95% recovery could not be determined. Sufficient manual data had been collected for this test to allow for estimates of hydraulic conductivity.

Based on a review of level logger data from surrounding observation wells, a potential response to pumping at TW10 was observed at observation well TW8. The response was limited in magnitude (less than 10 cm), but exhibited recovery upon the cessation of pumping. Given the limited nature of the response, significant dewatering of the shallow fracture zone intercepted by TW8 was not observed due to pumping at TW10.

Based on a review of logger data from TW9-1, TW9-2, and TW13, it is unclear whether a connection exists between these wells and TW10. Although potential responses were observed in these wells upon the cessation of pumping at TW10, the potential responses did not exhibit the characteristic shape of a Theis type curve

(which would be expected by modelling fractured bedrock as equivalent porous media). These responses were limited in magnitude to less than 10 cm and are not expected to represent a significant connection between TW10 and these observation wells.

In addition to the potential response from the pumping at TW10, TW8 showed numerous apparent drawdown and recovery events during the pump test and recovery period. Given the proximity of TW8 to residential dwellings along Headline Road and the cyclical nature of the drawdown and recovery events, it is our interpretation that water levels in TW8 were being influenced by pumping from domestic wells in the vicinity. The magnitude of the drawdown and recovery events was on the order of 0.05 to 0.1 m.

Figures showing drawdown curves at TW10 and associated observation wells, for the period beginning when the pump was turned on and ending 24 hours after the pump was turned off, are appended to this report.

A summary of pumping and observation well details and drawdown information is provided below.

Table 6 Pump Test Summary – TW10 – November 8, 2016			
Well ID	Distance from Pumping Well (m)	Stratigraphic Unit	Observed Drawdown (m)
TW10 (Pumping Well)	-	Lower Bedrock	16.396
TW8	340	Upper Bedrock	<0.1
TW9-I	1020	Lower Bedrock	<0.1
TW9-II	1020	Upper Bedrock	<0.1
TW13	370	Upper Bedrock	<0.1

Drawdown data from TW10 were analyzed using the Theis and Cooper-Jacob methods. Estimates of saturated hydraulic conductivity varied between 2.1×10^{-6} and 3.7×10^{-7} m/s. These values were generally consistent with previous testing.

Given the shape of the potential responses at the observation wells, no hydraulic conductivity analysis was completed using data from these locations.

The second pumping test was completed on November 10, 2016. TW11-1 was selected as the pumping well, and TW11-2, TW11-3, TW12, TW3-III, and Scale House Well were selected as observation wells given their proximity and orientation with respect to TW11-1. Manual water level measurements were taken at all wells prior to the start of the test, following which all wells were instrumented with level loggers. A barometric logger was kept at TW10 to compensate for atmospheric conditions. The level loggers were set to record at 15 second intervals throughout the duration of the test and contained sufficient memory to record groundwater levels beyond the anticipated 95% recovery time of the test.

The pump was installed at TW11-1 by Bourgeois at a depth of approximately 91 m. Following the installation of the pump, the water level was allowed to stabilize and a static water level of 8.362 m BTOC was measured and the level logger was installed at approximately 80 m BTOC. The pump was started at approximately 12:30

PM, and ran at a relatively constant rate of 11-14 L/min. Minor variations in the pump flow rate were observed due to the significant head change associated with the drawdown in the well. Manual water level measurements were taken at the pumping well throughout the test. After 263 minutes of pumping, a water level of 77.685 m BTOC was observed, corresponding to a drawdown of 69.323 m.

After 263 minutes of pumping, at approximately 4:53 PM, the pump was shut down and water level recovery was monitored. Based on a review of level logger data, 95% recovery was achieved at approximately 510 minutes from the cessation of pumping.

Based on a review of level logger data from surrounding observation wells, no significant response to the pumping at TW11-1 was observed. In particular, it is noted that responses were not observed at TW11-2 or TW11-3, indicating that the vertical connection between the deep bedrock layer and the upper bedrock and gravel layers is limited. As with TW8, in the first pumping test, TW11-2 showed numerous cyclical drawdown and recovery events, suggesting the potential for influence by a domestic well or wells in the vicinity. Furthermore, a significant drawdown and recovery event was observed at the scale house well. Given the timing of this event and the fact that it did not coincide with the pump test at TW11-1, we can be reasonably certain that this event is the result of water use within the scalehouse.

A summary of pumping and observation well details and drawdown information is provided below.

Table 7 Pump Test Summary – TW11-1 – November 10, 2016			
Well ID	Distance from Pumping Well (m)	Stratigraphic Unit	Observed Drawdown (m)
TW11-1	-	Lower Bedrock	69.323
TW11-2	5	Upper Bedrock	<0.1
TW11-3	5	Overburden (gravel)	<0.1
TW12	215	Upper Bedrock	<0.1
TW3-1	625	Lower Bedrock	<0.1
Scale House Well	670	Upper Bedrock	<0.1

Drawdown and recovery data from TW11-1 were analyzed using the Theis and Cooper-Jacob methods. Estimates of saturated hydraulic conductivity varied between 7.5×10^{-7} and 3.8×10^{-8} m/s. These values are generally consistent with previous testing.

It is noted that the software tool used to analyze transmissivity at the pumping wells also reports a storativity value. However, given that only pumping wells (and not observation wells) were analyzed, and no significant analyzable drawdown response was observed at observation wells, meaningful storativity values could not be calculated for the site.

3.5 Groundwater Sampling

Samples were obtained TW10 and TW11-1 at the beginning and end of the respective pump tests at these locations. The purpose of these groundwater samples was to provide a general characterization of water quality in formations which would contribute to quarry seepage upon development. Groundwater quality results are summarized in Table 3, appended to this report. Results were compared to the Ontario Drinking Water Standards (ODWS). It is noted that water samples from TW10 and TW11-1 are not considered representative of surrounding water wells (which are screened in the shallow bedrock). Laboratory Certificates of Analysis for groundwater and surface water testing conducted at the site are presented in Appendix E.

Based on test results from the water supply well on the property, the groundwater quality is moderate to fair. One Maximum Acceptable Concentrations (MACs) exceedance was noted in the second sample taken from TW11-1 (total coliform count of 1, exceeding the MAC of 0). Given that this water is not intended for drinking water supply, this exceedance is not considered to represent a concern.

The following aesthetic objectives (AOs) or operational guidelines (OGs) exceedances were noted:

- Chloride exceeded the AO of 250 mg/L in the initial samples at TW10 and TW11, but was in compliance in the final samples at both locations
- Colour exceeded the AO of 5 TCU in the initial and final samples at TW10 and TW11
- Hardness was below the OG range of 80-100 in the initial sample at TW10, and above the OG range in the initial and final samples at TW11
- Turbidity exceeded the AO of 5 NTU in all samples
- Iron exceeded the AO of 0.3 mg/L in the initial and final samples at TW11
- Manganese exceeded the AO of 0.05 mg/L in the initial sample at TW11
- Sodium exceeded the AO of 200 mg/L in the initial samples at TW10 and TW11
- Sulphide exceeded the AO of 0.5 mg/L in all samples
- Total dissolved solids (TDS) exceeded the AO of 500 mg/L in the initial and final samples at TW10 and in the initial sample at TW11.

3.6 Domestic Water Well Survey

An extensive desktop domestic water well survey was completed as a part of this assessment, the results of which are summarized in Section 2.5.4 above. Numerous wells are present within a 500 m radius of the subject site, generally associated with residences along McConnell Avenue, Headline Road, and South Branch Road. The majority of wells reported water-bearing intervals within the shallow bedrock layer at depths between 8.8 and 35.1 m.

A review of BGC's report and conversations with Cornwall Gravel indicated that over the operating history of the quarry, three (3) neighbouring properties have brought water well problems to the attention of Cornwall Gravel, all of which were successfully remediated. Well problems consisted of sediment infilling in the water wells, and could be attributed to either age or construction of the wells. Cornwall Gravel voluntarily contributed to the remediation of water well problems. Remediation measures consisted of cleaning, surging,

and development of wells to remove fines, or if these measures were not sufficient, the well was abandoned and a replacement well was drilled. In all cases, the shallow bedrock aquifer was targeted.

It is our understanding that extraction will not occur at the MacLeod III and V quarries for several years. It is therefore recommended that at least one year prior to the development of these properties, a field water well survey be conducted to confirm which of the water well records are still in use. Further recommendations on the domestic water well survey are outlined in subsequent sections.

4.0 IMPACT ASSESSMENT

The following sections provide a summary of the potential effects of the proposed MacLeod III and V quarry expansions on the hydrogeological and hydrological setting in the vicinity of the quarry. Based on a review of existing site data and water well records, the shallow bedrock aquifer is considered the most important stratigraphic unit with respect to surrounding water supply. The impact of pumped water from the quarry on drainage patterns and surrounding surface water courses is also considered.

4.1 Hydrogeology

For the purposes of this assessment, hydrogeological units at the subject site can be generally separated into three (3) distinct units: the overburden (gravel) aquifer unit encountered at TW11, the shallow bedrock aquifer (described by BGC as the overburden interface aquifer due to the contribution of saturated overburden soils to groundwater in this aquifer), and the deep bedrock aquifer (a general term for water present in any isolated fractures throughout the entire extraction depth of the quarry).

4.1.1 Overburden (Gravel) Aquifer

Based on the results of our subsurface investigation and review of MOECC well records in the area, the gravel layer appears to be discontinuous and limited in lateral extent. The gravel layer was not significantly used by surrounding water supply wells. Although a high yield was reported for this layer (up to 900 L/min as reported by Bourgeois during the drilling of TW11-2), its shallow depth of less than 10 m make it susceptible to quality concerns, which might explain its limited use for water supply. Any incidental interception or dewatering of this layer during overburden stripping for quarry development is considered to have a negligible impact on surrounding water supply wells.

4.1.2 Overburden Interface/Shallow Bedrock Aquifer

The results of the MOECC water well record review indicated that the shallow bedrock aquifer in the area of the subject site is the most widely used by surrounding water supply wells, with the majority of the wells in the vicinity reporting water-bearing fractures between 8 and 35 m below existing grade. The upper bedrock is weathered/fractured to a greater degree than underlying bedrock, and allows for the storage and transmission of water which has infiltrated through overlying materials.

The majority of seepage into the quarry occurs in the shallow bedrock stratigraphic layer, particularly along the western face of the quarry where the ditch into which the quarry sump discharges runs parallel to the quarry face for a distance of approximately 670 m. It is our interpretation that the shallow bedrock aquifer is recharged by infiltration of precipitation or quarry discharge through overburden soils, particularly in areas where overburden is thinner or more permeable. If the quarry sump discharge location is changed as part of quarry operations, the amount of water recharging into the shallow overburden aquifer may also be affected. These effects may be mitigated by the design of quarry discharge systems to provide continued recharge for downgradient users while minimizing re-infiltration into the quarry (e.g. an infiltration trench or recharge curtain). Once quarry operations have ceased, the closure plan should be designed to limit runoff to the quarry footprint and maximize the potential for infiltration.

In addition to the existing monitoring network, this investigation has added several wells completed within the shallow bedrock aquifer at the MacLeod III and V properties. (TW9-2, TW11-2, TW12, and TW13).

The response of shallow bedrock wells to pumping tests completed as part of this assessment was observed to be minimal. Furthermore, long-term water level monitoring does not indicate significant impacts to these wells based on quarry operations. Ongoing monitoring of these wells as quarry development continues is recommended, and should provide an early indication of any potential off-site impacts to the shallow overburden aquifer.

4.1.3 Deep Bedrock Aquifer

It is noted that surrounding water wells were generally not completed in this unit, confirming the results of the pump tests that the available yield in this unit was on the low end of suitability for domestic supply. Analytical results also indicate that the water from this aquifer unit exceeds operational guidelines and aesthetic objectives per the Ontario Water Quality Guidelines, and one maximum acceptable concentration exceedance was noted in TW11-1 (a plate count of 1 total coliform unit, exceeding the MAC of 0).

Based on hydraulic conductivity testing completed as part of the current and previous assignments, as well as observations made at the quarry face, fractures and groundwater movement within the deep bedrock at the site are considered to be minimal. Furthermore, given that surrounding water wells are generally not screened in the deep bedrock, influence on surrounding wells is expected to be minimal.

In addition to the existing monitoring network, this investigation has added several wells completed within the deep bedrock aquifer at the MacLeod III and V properties. (TW9-1, TW10, and TW11-1). Ongoing monitoring of these wells as quarry development continues is recommended, and should provide an early indication of any potential off-site impacts to the shallow overburden aquifer.

4.1.4 Post-Operations Groundwater Setting

Given the size of the quarry and its depth below the water table, post-closure, it is our understanding that the quarry will be allowed to fill with water and will become essentially an artificial lake. The final level of the lake will depend on the final extraction limits of the quarry (assumed to encompass all of MacLeod I through V as a single excavation footprint), as well as the bedrock elevation around the perimeter of the quarry. Per BGC's analysis, the final elevation of the lake is expected to correspond to the elevation of a "spill point", i.e. the lowest elevation of the bedrock surface around the excavation perimeter, where the water level in the lake would cease to be confined by the bedrock and would exfiltrate outward through surrounding overburden soils. In areas of low-permeability overburden soils and a fractured upper bedrock layer, the spill point may in fact be several metres below the bedrock surface. However, for the purpose of this assessment, the spill point assumption has been retained.

The following table summarizes bedrock elevations at well locations around the extraction area perimeter:

Table 8 Bedrock Surface Elevations – Extraction Area Perimeter Wells			
Well ID	Ground Surface Elevation (m ASL)	Depth to Bedrock (m)	Bedrock Surface Elevation (m ASL)
TW2	62.39	2.13	60.26
TW3	68.87	11.28	57.59
TW4	58.13	5.18	52.95
TW6	60.03	5.48	54.55
TW7	64.48	7.63	56.85
TW8	73.29	14.9	58.39
TW9	67.68	12.8	54.88
TW10	70.76	11.28	59.48
TW11	73.99	16.15	57.84
TW12	72.04	14.33	57.71
TW13	72.72	14.02	58.70

Based on the above table, the lowest observed bedrock elevation around the quarry perimeter is approximately 52.95 m, observed at TW4. However, extraction is not considered to extend as far south as TW4, and given the inherent uncertainty of the spill point model, a final lake level of approximately 58 m ASL is considered reasonable, as per BGC's analysis. The final water level of the lake will also be dependent on groundwater levels downgradient of the site.

Any deleterious material left in the quarry following final extraction may have the potential to impact water quality in the lake. It is therefore recommended that all equipment, materials, etc. be removed from the quarry footprint concurrently with final extraction.

4.2 Surface Water Resources

No surface water features on the site will be directly impacted by the extraction area. A portion of the Eastman Drain, a tributary of the South Raisin River, crosses the southwest portion of the MacLeod III property. An appropriate setback from this feature is to be maintained during extraction, based on floodplain analysis. While some areas currently draining into this surface water body will drain into the quarry sump as extraction progresses, water from the quarry sump is eventually pumped back out into a ditch contributing to the Eastman Drain. Potential impacts on surrounding surface water bodies can be managed to meet the requirements of the municipality, conservation authority, and other regulatory agencies.

Following final extraction, as part of quarry closure, the cessation of pumping might result in a temporary reduction of flows to surrounding surface water bodies. However, grading measures undertaken as part of quarry closure should direct surface water runoff away from the quarry footprint and towards surface water features. Capping of shallow bedrock seepage faces with lower permeability soils should limit the dewatering of overburden and shallow bedrock layers, which will contribute to the preservation of baseflow in surface water features.

There are currently no wetland features on the quarry property. It is our understanding that wetland features and/or low wet areas in the vicinity of the property are the result of poor drainage and overburden soils of low permeability. Given our review of overburden soils in the vicinity of the subject site, the interaction between wetland features and groundwater in the bedrock unit is expected to be negligible. Since there are currently no on-site wetland features, it is our opinion that any impacts to off-site wetland features can be prevented by site grading and development controls, as discussed in the Site Plans, appended to this report.

5.0 SUMMARY OF CONDITIONS

McIntosh Perry conducted a hydrogeological assessment for the proposed MacLeod III and MacLeod V quarries, located on the south side of Headline Road east of McConnell Avenue, in the Township of South Stormont (Geographical Township of Cornwall), Ontario. Cornwall Gravel currently operates the MacLeod Quarry, and is extracting limestone from the area currently designated as MacLeod I. Cornwall Gravel currently holds licenses for MacLeod II, immediately to the west of the current extraction area, and MacLeod IV, immediately to the east of the current extraction area. This hydrogeological study has been completed in support of a Class A, Category 1 and 2 License under the Aggregate Resources Act, for the properties designated as MacLeod III (immediately to the west of MacLeod II) and MacLeod V (immediately to the east of MacLeod IV).

5.1 Hydrogeology

The hydrogeology of the subject site has been extensively characterized by previous investigations by Gorrell Resources Inc. (GRI) in 1994 and by BGC Engineering in 2012. The purpose of this investigation was to provide additional site-specific characterization of the hydrogeological setting specifically at the MacLeod III and V properties.

The previous and current studies have identified three (3) major hydrostratigraphic units at the site: the overburden layer, the shallow bedrock layer (identified by BGC as the overburden interface aquifer), and the deep bedrock layer. Overburden consists primarily of glacial till, composed of a silty clay matrix with sand, gravel, and boulders, and is generally of low permeability, with the exception of a discontinuous gravel layer observed in the northwest corner of MacLeod III in the vicinity of TW11. The shallow bedrock layer/overburden interface aquifer consists of the upper several metres of bedrock, which is more fractured and permeable than the underlying bedrock. This layer is most significantly utilized by surrounding water wells in the area, and several monitoring wells on-site were completed in this layer. The deeper bedrock at the site is less permeable, and several monitoring wells on-site were completed in this layer.

A hydraulic conductivity testing program was completed at the site, consisting of one pump test at TW10 (on the MacLeod V property) and one pump test at TW11-1 (on the MacLeod III property). The pumping wells extended below the proposed base of the quarry to reflect the effects of quarry dewatering under full development. Observation wells in the deep bedrock, shallow bedrock, and overburden units were monitored. At the observation wells on MacLeod V, minor responses to pumping (10 cm or less) were observed, and did not exhibit the typical Theis curve shape but were more representative of underdamped responses in individual fractures. No significant effects were observed resulting from the pumping at MacLeod III.

5.2 Water Quality

Water samples from TW10 and TW11-1, from the beginning and end of the pumping tests at each location, were submitted for analysis of a variety of water quality parameters and were compared to the Ontario Drinking Water Standards (MOECC, 2003, amended 2006). One exceedance of Maximum Acceptable Concentration was observed (a total coliform plate count of 1 from the final sample at TW11-1, exceeding the MAC of 0). Several additional exceedances of OG and AO guidelines were also noted at both monitoring

locations. It is noted that these water quality samples were taken from a stratigraphic interval underlying the shallow bedrock aquifer in which the majority of surrounding wells are screened.

5.3 Impact Assessment

As with the current quarry, the proposed development of the MacLeod III and V properties has the potential to impact surrounding water wells completed in the shallow bedrock aquifer. To date, the quarry appears to have had minimal effects on the surrounding water wells. Water well complaints received over the years have generally been associated with sedimentation of wells, and can be attributed to age and/or well construction. These well issues have been mitigated by surging/development or drilling of replacement wells. Long-term groundwater level monitoring of on-site wells shows that lowering of water levels due to quarry dewatering has generally been minimal, and that groundwater level variation due to the inherent variability of climatic conditions is more significant.

Although a significant yield was reported in the discontinuous gravel layer at TW11, a review of surrounding water well records indicated that this layer was not generally utilized by water supply wells in the area. BGC (2012) estimated the radius of impact of the quarry in this stratigraphic unit was approximately 35 m. Correspondingly, the deep bedrock layer does not appear to be significantly utilized by surrounding water wells. The impact of the proposed quarry expansion on surrounding water wells is expected to be minimal, and potential impacts are likely to be identified early by the ongoing monitoring of water levels at on-site monitoring wells.

During the extractive phase of quarry operations, surface water features are expected to be maintained by the discharge of pumped water from the quarry sump. Following final extraction, as part of quarry closure, the cessation of pumping might result in a temporary reduction of flows to surrounding surface water bodies. However, grading measures undertaken as part of quarry closure should direct surface water runoff away from the quarry footprint and towards surface water features. Capping of shallow bedrock seepage faces with lower permeability soils should limit the dewatering of overburden and shallow bedrock layers, which will contribute to the preservation of baseflow in surface water features.

6.0 RECOMMENDATIONS

Based on the results of the current investigation and past investigations at the subject site, the following recommendations are made for the mitigation of potential impacts of the proposed quarry expansion.

6.1 Well Inventory

It is our understanding that the MacLeod III and V properties will not be developed for a significant period of time. Prior to proposed extraction in these areas, it is recommended that a well inventory update for any water wells within 200 m of the proposed excavation limits. The well inventory update should include a site visit to meet with the well owners to identify any historical issues and confirm well construction details, as well as the collection of at least one baseline water quality sample.

6.2 Groundwater Monitoring

In addition to the existing on-site monitoring network, the current investigation has added several monitoring wells to the on-site monitoring network. It is recommended that ongoing monitoring of existing wells continue as per the current program, and that the new wells be added to the monitoring program. Water levels are currently measured at on-site monitoring wells twice yearly, in May and August, as a condition of the PTTW for the site and to assess the effects of quarry operations on surrounding groundwater conditions. Regular review of monitoring data is a component of the trigger mechanism identified below.

6.3 Trigger Mechanism

The current trigger mechanism for action regarding well-related complaints at MacLeod I will be retained as extraction progresses to MacLeod III and V. The trigger mechanism is outlined below.

6.3.1 *Impact Predicted from Monitoring Data*

Monitoring data from the above-noted annual groundwater monitoring events will be reviewed on an annual basis by a qualified professional. The purpose of the analysis will be to evaluate ongoing impacts and predict anticipated problems. For instance, if consistent water level lowering is observed at an on-site well completed in the shallow bedrock unit, special attention will be given to the potential for drawdown effects at nearby domestic wells completed in the same unit.

6.3.2 *Unexpected Well Issues*

An emergency response program is proposed for well issues within an area within 500 m of the property boundary. If an unexpected well issue is reported within this radius, an accelerated remedial program will be triggered. Cornwall Gravel or any other designated operator of the quarry, upon receipt of notification of a well issue, either by the owner, MNRF, or MOECC, will:

- Within 500 m of the site, provide an interim potable water supply within 24 hours and notify MOECC of the complaint.
- Within 1 km of the site, notify MOECC of the complaint.

- Retain a qualified professional at the operator's expense to conduct a site investigation, determine the cause, and within 30 days provide a report with recommendations on the best way to remediate the well issue.

6.4 Contingency Plan

It is recommended that a contingency plan be implemented in the event of actual or potential adverse effects as a result of quarry operations. If, upon review of annual monitoring data, off-site impacts are forecasted, quarry operations will be reviewed and modified as necessary to prevent the anticipated problem from occurring.

If a water well complaint is received, and the subsequent investigation by a qualified professional determines that quarry operations are responsible, the quarry operator will be responsible for restoring the water supply to its original condition at the operator's expense.

6.5 Protection of Water Quality

Various quarry operational procedures have the potential to impact the water quality in the quarry sump, and correspondingly, water quality in the discharge ditch and shallow bedrock and overburden aquifers. It is our understanding that equipment maintenance, fuelling, and repair, as well as the operation of an asphalt plant, will continue to occur on the subject site, either in the MacLeod III or V footprints or more likely in their existing locations within the MacLeod I footprint.

The first and most important step to ensuring the protection of water quality will be through the management of operations and equipment in accordance with industry standards and best practices, as well as legislative requirements. Wherever possible, equipment or operations with the potential to result in impacts, such as the asphalt plant, fuelling areas, or materials storage, will be situated on natural or constructed impervious platforms, with secondary containment. Regulatory requirements of the Technical Standards and Safety Authority (TSSA) will be adhered to as part of operational practice. A minimum 30 m separation will be maintained between the asphalt plant and any surface water source, including the quarry sump, settling pond(s), and/or the culvert/ditch system used for quarry discharge.

6.6 Emergency Spills Procedure

An emergency spills procedure, with emergency employee contact information, is currently in place for the site. The site manager is trained in the emergency spills procedure.

All unexplained losses of fuel or other contaminants will be immediately reported to the main office of Cornwall Gravel, which will be responsible for completing any required cleanup. A quantity of appropriate cleanup material, such as absorbent mats and granular absorbent material, is kept on-site at all times. If a spill occurs, action will immediately be taken to contain and absorb any spilled material.

6.7 Water Conservation Measures

While dewatering is necessary for quarry operation, the following best management practices (as proposed by the Ontario Stone, Sand, and Gravel Association) will be followed at the site to the extent possible:

- Conduct hydrogeological and hydrological investigations to a sufficient level of detail to evaluate the impacts of dewatering, identify the sensitive receptors and provide a satisfactory monitoring plan, trigger mechanism and contingency plan
- Make the best effort to return discharged water to its source
- Ensure that equipment is functioning efficiently (i.e. crushers, wash plants, etc.) to minimize water use in processing
- Reuse process water where possible (i.e. closed-loop systems)
- Ensure that natural water quality is restored as closely as possible to receiver before discharging
- Only remove water from the excavation as required for operations

Detailed information on all mitigation measures proposed for the quarry are contained in the Site Plans, appended to this report.

7.0 SUMMARY AND CONCLUSIONS

This hydrogeological assessment has been prepared to support the development of a quarry on a rural property located in the City of Ottawa. The proposal is for a Class “A”, Category 1 quarry below water, estimated to extract >20,000 tonnes per year.

This assessment shows that a pit/quarry can be developed under the following conditions:

- It is developed, operated, and rehabilitated as per site plans (Figure 8).
- An appropriate separation exists between the extraction area and permanent water bodies, based on floodplain mapping.
- No consumptive water taking or transfer occurs without a valid Permit to Take Water.

McIntosh Perry has made the following recommendations to ensure ongoing compliance should the site be developed:

- Semi-annual water level monitoring should continue on-site in all accessible monitoring well locations.
- Discharge from the quarry sump should continue to be directed to the Eastman Drain, in compliance with the terms of the PTTW.
- Re-evaluation of the surrounding domestic water supply well network within 200 m of the extraction boundary should be completed prior to extraction beginning at MacLeod III and MacLeod V, with a door-to-door domestic water well survey completed at all wells within this radius.

In order to protect groundwater:

- There will be no storage of liquid fuels at the site within 30 m of a water body.
- Mobile equipment will be serviced off-site or in designated shop areas on-site. No servicing of mobile equipment will occur in the extraction area, where practical.
- All petroleum waste liquids generated on-site will be collected and transported off-site by a licensed liquid waste transportation and disposal contractor.
- The immediate reporting of any fuel and lubricant spills to the Ministry of the Environment and Climate Change is mandatory.

The well monitoring data are to be reviewed as per conditions in the PTTW for the site by a qualified professional (P.Geo. or P.Eng.) to assess possible impacts to the groundwater/surface water regime. Water supply and/or monitoring wells within the extraction area are to be abandoned as per O.Reg. 903 when extraction at the water table occurs within 15 m of them, or they otherwise interfere with aggregate extraction.

8.0 QUALIFICATIONS AND SIGNATURES

Field assessment and data analysis for this report was undertaken by Jordan Bowman of McIntosh Perry. Mr. Bowman is an Environmental Scientist McIntosh Perry. He has assisted with several hydrogeological studies and completed environmental site assessments for government agencies, corporations, and individuals.

Reporting for this assignment was undertaken by Dan Arnott, P.Eng., of McIntosh Perry. Mr. Arnott is a licensed Professional Engineer in Ontario and a Qualified Person (QP) under O.Reg. 153/04 as amended. Mr. Arnott has experience in hydrogeological assessment of numerous aggregate resource projects of various scales, for public and private sector clients, as well as extensive experience in hydrogeological assessments and contaminated site investigations and remediation.

Senior review was undertaken by Mark Priddle, P.Geo., of McIntosh Perry. Mr. Priddle is a licensed Professional Geoscientist in Ontario and a Qualified Person (QP) under O.Reg. 153/04, as amended. Over the past 20 years, he has conducted and reviewed numerous hydrogeological studies and impact assessments for corporations, individuals, and government agencies.

McIntosh Perry is licensed to practice engineering and geoscience in the Province of Ontario. McIntosh Perry holds Certificates of Authorization with the Professional Engineers of Ontario (PEO) and the Association of Professional Geoscientists of Ontario (APGO), and is a full member of the Consulting Engineers of Ontario (CEO).

We trust that this information is satisfactory for your present requirements. Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Respectfully submitted,

McIntosh Perry Consulting Engineers Ltd.

Mark Priddle, P.Geo.
Project Manager and Senior Reviewer

Daniel J. Arnott, P.Eng.
Geo-Environmental Engineer

Ref.: h:\01 project - proposals\2016 jobs\cp\0cp-16-0280 cornwall gravel_ara application_cornwall\03 - hydrogeology\report\cp-16-0280 macleod iii and v hydrog level 1 and 2 report 9-dec-16.docx

9.0 LIMITATIONS

This report has been prepared, and the work referred to in this report has been undertaken by, McIntosh Perry Consulting Engineers Ltd. for Cornwall Gravel Company Ltd. It is intended for the sole and exclusive use of Cornwall Gravel, any affiliated companies and partners and their respective financial institutions, insurers, agents, employees and advisors (collectively, 'Cornwall Gravel'). The report may not be relied upon by any other person or entity without the express written consent of McIntosh Perry Consulting Engineers Ltd. (in the form of a Reliance Letter).

Any use which a third party makes of this report, or any reliance on decisions made based on it, without a Reliance Letter are the responsibility of such third parties. McIntosh Perry Consulting Engineers Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The investigation undertaken by McIntosh Perry Consulting Engineers Ltd. with respect to this report and any conclusions or recommendations made in this report reflect McIntosh Perry Consulting Engineers Ltd.'s judgment based on the site conditions observed at the time of the site inspection on the date(s) set out in this report and on information available at the time of the preparation of this report.

This report has been prepared for specific application to this site and it is based, in part, upon visual observation of the site, subsurface investigation at discrete locations and depths, and specific analysis of specific chemical parameters and materials during a specific time interval, all as described in this report. Unless otherwise stated, the findings cannot be extended to previous or future site conditions, portions of the site which were unavailable for direct investigation, subsurface locations which were not investigated directly, or chemical parameters, materials or analysis which were not addressed. Substances other than those addressed by the investigation described in this report may exist within the site, substances addressed by the investigation may exist in areas of the site not investigated and concentrations of substances addressed which are different than those reported may exist in areas other than the locations from which samples were taken.

If site conditions or applicable standards change or if any additional information becomes available at a future date, modifications to the findings, conclusions and recommendations in this report may be necessary. Some of the information presented in this report was provided through maps, air photographs, and interviews. Although attempts were made, whenever possible, to obtain a minimum of two confirmatory sources of information, McIntosh Perry Consulting Engineers Ltd., in certain instances, has been required to assume that the information provided is accurate.

Should additional information become available, McIntosh Perry Consulting Engineers Ltd. requests that this information be brought to our attention so that we may re-assess the conclusions presented herein.

10.0 REFERENCES

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- Ministry of Northern Development and Mines (MNDM), 1980. Physiological Land Classifications of Eastern Ontario.
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TABLES

CP-16-0280
Cornwall Gravel Company Ltd. - Hydrogeological Level 1 and 2 Investigation - Proposed MacLeod III and MacLeod V Pits/Quarries
Table1: Monitoring Well Construction Details, On-Site Monitoring Network

Well ID	Well Type	Top of casing (TOC) elevation, m ASL ^{1, 2}	Ground surface elevation, m ASL ²	Stickup (m)	Total Depth (m)	Screened or open hole interval, m BGS ³			Screened or open hole interval, m ASL ⁴			Comments
TW1	Open Hole		57.4		61	6.1	-	61	51.3	-	-3.6	TW1 instrumented with piezometers 1-1 through 1-3 following pump test on open hole; TW1 destroyed as of 2011.
TW1-1	Piezometer		57.4			33.5	-	61	23.9	-	-3.6	
TW1-2	Piezometer		57.4			16.1	-	30.6	41.3	-	26.8	
TW1-3	Piezometer		57.4			6.8	-	12.8	50.6	-	44.6	
TW2	Open Hole	62.39	62.390		61.2	6.1	-	61.2	56.29	-	1.19	TW3 instrumented with piezometers 3-1 through 3-3 following pump test an open hole
TW3	Open Hole	68.87	68.870		68.9	12.8	-	68.9	56.07	-	-0.03	
TW3-1	Piezometer	68.87	68.470	0.400		29.3	-	68.9	39.17	-	-0.43	
TW3-2	Piezometer	68.87	68.470	0.400		17.4	-	26.4	51.07	-	42.07	
TW3-3	Piezometer	68.87	68.470	0.400		12.8	-	13.9	55.67	-	54.57	TW4 instrumented with piezometers 4-1 through 4-3 following pump test on open hole
TW4	Open Hole	58.13	58.130		61	6.1	-	61	52.03	-	-2.87	
TW4-1	Piezometer	58.13	57.800	0.330		34.8	-	61	23	-	-3.2	
TW4-2	Piezometer	58.13	57.800	0.330		14.3	-	32.1	43.5	-	25.7	
TW4-3	Piezometer	58.13	57.800	0.330		6.2	-	11.2	51.6	-	46.6	All multi-level locations from TW7 onward consist of separate shallow and deep boreholes instead of multi-level piezometer installations within the Originally 29.6 m deep, deepened in 1995, mined out.
TW5	Open Hole	72.36	71.800	0.560	23.8	12.5	-	23.8	59.3	-	48	
TW6-1	Open Hole	60.03	59.570	0.460	91.44	7.3	-	91.44	52.27	-	-31.87	
TW6-2	Open Hole	60	59.200	0.800	12.1	6	-	12.1	53.2	-	47.1	
TW7-1	Open Hole	64.48	64.030	0.450	79.24	9.7	-	79.24	54.33	-	-15.21	
TW7-2	Open Hole	64.19	63.570	0.620	12.2	7	-	12.2	56.57	-	51.37	
McLeod House	Open Hole	-	-		43.7	6.1	-	43.7		-		
Old Shop Well	Open Hole	74.9	74.510	0.390	91.4	?	-	91.4		-	-16.89	
New Shop Well	Open Hole	74.97	74.550	0.420	30.48	14.02	-	30.48	60.53	-	44.07	
Scale House Well	Open Hole	74.67	73.980	0.690	24.4	14	-	24.4	59.98	-	49.58	
Lab Well	Open Hole	74.67	73.370	1.300	18.3	14.6	-	18.3	58.77	-	55.07	
TW8	Open Hole	73.29	72.590	0.700	18.9	14.9	-	18.9	57.69	-	53.69	
TW9-1	Open Hole	67.68	67.230	0.450	109.73	13.4	-	109.73	53.83	-	-42.5	
TW9-2	Open Hole	67.7	67.060	0.640	18.29	13.4	-	18.29	53.66	-	48.77	
TW10	Open Hole	70.76	70.310	0.450	111.86	13.7	-	111.86	56.61	-	-41.55	
TW11-1	Open Hole	73.99	73.530	0.460	116.4	20.12	-	116.4	53.41	-	-42.87	
TW11-2	Open Hole	74.08	73.460	0.620	19.35	16.3	-	19.35	57.16	-	54.11	
TW11-3	Open Hole	74.25	73.410	0.840	9.1	6.1	-	9.1	67.31	-	64.31	
TW12	Open Hole	72.87	72.040	0.830	18.24	15.19	-	18.24	56.85	-	53.8	
TW13	Open Hole	73.13	72.720	0.410	21.34	15.24	-	21.34	57.48	-	51.38	

- Notes
- 1. m ASL - metres above sea level
 - 2. Elevations re-surveyed by Cornwall Gravel in 2016, may not be consistent with previous reports but reflect most up-to-date information. TW1 destroyed and not re-surveyed.
 - 3. m BGS - metres below ground surface
 - 4. Cased portion of well not included in open hole interval.

Table 2: MOECC Water Well Record Summary

Well ID	Water Use	Total depth (m)	Water Found At (m)	Static Water Depth (m)	Pumping Rate (L/min)	Depth to Bedrock (m)	Formation Description	Formation Thickness (m)	
2303086	Domestic	19.8	19.2	4.6		17.7	Brown hardpan, boulders Grey hardpan Grey hardpan, boulders Grey Gravel Grey Limestone	0.0 10.7 15.8 17.1 17.7	10.7 15.8 17.1 17.7 19.8
5804562	Domestic	27.1	24.4	4.9	9.1	8.8	Brown till, hard Grey till, hard Grey limestone, layered	0.0 2.4 8.8	2.4 8.8 27.1
5801213	Domestic	12.2	11.6	2.4	22.8	4.0	Brown loam Hardpan Grey rock	0.0 1.5 4.0	1.5 4.0 12.2
5801933	Domestic	37.5	34.4	6.1	18.2	8.2	Brown loam Grey clay, boulders, hard Brown gravel, sand, clay Grey limestone, stones, hard	0.0 0.6 6.4 8.2	0.6 6.4 8.2 37.5
5801067	Livestock	29.6	29.0	4.0	22.8	4.6	Hardpan, boulders Grey limestone	0.0 4.6	4.6 29.6
5802458	Domestic	21.3	19.8	4.6	45.5	17.4	Brown hardpan, stones, hard Grey hardpan, stones, hard Grey limestone, layered	0.0 2.4 17.4	2.4 17.4 21.3
5803970	Not Used (TW)			0.0		0.0			
5803971	Not Used (TW)			0.0		0.0			
5803972	Not Used (TW)			0.6		0.0			
5800113	Domestic	15.5	14.6	4.6	18.2	13.7	Hardpan Grey limestone	0.0 13.7	13.7 15.5
5800114	Domestic	9.8	9.8	1.5	27.3	0.0	Clay Sand, gravel	0.0 6.1	6.1 9.8
5800115	Domestic	10.2	10.2	0.3	18.2	8.5	Gravel Slate	0.0 8.5	8.5 10.4
5800116	Domestic	32.0	32.0	7.3	22.8	10.4	Hardpan, boulders Grey limestone	0.0 10.4	10.4 32.0
5800117	Domestic	20.7	18.6	2.1	30.5	9.8	Blue clay Limestone	0.0 9.8	9.8 20.7
5801367	Domestic	17.4	16.5	3.0	36.4	12.8	Grey hardpan, boulders Grey limestone	0.0 12.8	12.8 17.4
5800267	Domestic	19.2	19.2	7.3	18.2	8.5	Clay Hardpan Limestone	0.0 3.7 8.5	3.7 8.5 19.2
5800268	Livestock	10.1	9.1	1.8	22.8	4.0	Clay Limestone	0.0 4.0	4.0 10.1
5800269	Domestic	23.5	23.5	3.0	18.2	3.7	Hardpan Limestone	0.0 3.7	3.7 23.5
5800270	Domestic	28.3	28.3	3.0	91.0	6.1	Hardpan Limestone	0.0 6.1	6.1 28.3
5801261	Domestic	15.2	13.7	3.0	45.5	5.8	Brown clay Grey gravel, boulders Grey limestone	0.0 4.6 5.8	4.6 5.8 15.2
5801264	Domestic	14.0	14.0	4.6	45.5	0.0	Hardpan Gravel	0.0 9.8	9.8 14.0
5800008	Domestic	21.9	20.7	7.6	22.8	13.4	Clay, boulders Grey rock	0.0 13.4	13.4 21.3
5800019	Livestock	16.8	15.2	4.6	27.3	11.6	Clay, boulders Limestone	0.0 11.6	11.6 16.8
5801902	Domestic	19.8	17.1	4.0	18.2	8.8	Brown loam, packed Grey clay, boulders, hard Grey clay, sand, gravel Grey limestone, stones, hard	0.0 0.3 6.4 8.8	0.3 6.4 8.8 19.8
5803941	Not Used	61.0		0.0		4.6	Brown loam, loose Brown clay, dense Brown hardpan, packed Grey limestone, layered	0.0 0.6 2.1 4.6	0.6 2.1 4.6 61.0
5803942	Not Used	61.0		0.0		2.1	Brown hardpan, packed Grey limestone, layered	0.0 2.1	2.1 61.0
5803943	Not Used	67.1		0.0		11.3	Brown hardpan, stones, packed Grey hardpan, gravel, packed Grey limestone, layered	0.0 4.0 11.3	4.0 11.3 67.1
5803944	Not Used	61.0		0.0		5.2	Brown loam, loose Brown hardpan, stones, packed Grey limestone, layered	0.0 0.6 5.2	0.6 5.2 61.0

Table 2: MOECC Water Well Record Summary

Well ID	Water Use	Total depth (m)	Water Found At (m)	Static Water Depth (m)	Pumping Rate (L/min)	Depth to Bedrock (m)	Formation Description	Formation Thickness (m)	
5803948	Domestic	19.8	19.2	3.0	45.5	10.4	Brown loam, fill, loose Brown hardpan, stones, packed Grey hardpan, gravel, packed Grey limestone, layered	0.0 0.6 3.7 10.4	0.6 3.7 10.4 19.8
5803950	Domestic	36.6	35.1	4.6	27.3	12.8	Brown hardpan, packed Brown clay, dense Grey hardpan, packed Grey limestone, layered	0.0 4.6 11.3 12.8	4.6 11.3 12.8 36.6
5803778	Commercial	24.4	23.2	4.0	68.3	11.3	Grey gravel, fill, packed Grey hardpan, packed Grey limestone, layered	0.0 2.1 11.3	2.1 11.3 24.4
5800357	Livestock	18.3	15.2	7.9	31.9	8.5	Previously dug/bored Grey rock Clay, gravel	0.0 8.5 15.2	8.5 15.2 18.3
5802219	Domestic	24.7	21.6	4.6	9.1	11.3	Brown hardpan, packed Grey limestone, stones, hard	0.0 11.3	11.3 24.7
5801454	Domestic	22.9	22.6	6.4	45.5	16.8	Brown hardpan, boulders Grey hardpan, boulders Grey limestone	0.0 9.1 16.8	9.1 16.8 22.9
5802872	Domestic	19.8	19.8	6.1	36.4	0.0	Brown till, boulders, hard Grey till, boulders, hard Grey gravel, hard	0.0 2.4 18.3	2.4 18.3 19.8
5803264	Domestic	10.7	16.8	1.5		0.0	Black loam Grey clay	0.0 0.6	0.6 10.7
5803275	Domestic	18.3	17.7	1.5	36.4	12.8	Grey till, boulders, hard Grey rock, hard	0.0 12.8	12.8 18.3
5803875	Domestic	22.9	22.3	3.7	45.5	0.0	Brown fill, stones, loose Brown hardpan, stones, packed Grey till, stones, packed Grey rock, layered	0.0 1.5 3.0 17.1	1.5 3.0 17.1 22.9
5803683	Domestic	21.3	19.8	7.6	18.2	18.3	Brown hardpan, boulders, hard Grey hardpan, boulders, hard Grey gravel, boulders, loose Grey limestone, rock, hard	0.0 3.0 16.8 18.3	3.0 16.8 18.3 21.3
5803689	Domestic	61.0	22.9	4.6	9.1	8.2	Brown hardpan, stones, packed Grey hardpan, gravel, packed Grey limestone, layered	0.0 3.7 8.2	3.7 8.2 61.0
5803706	Domestic	22.9	20.7	5.5	45.5	17.7	Brown hardpan, boulders, hard Grey hardpan, boulders, gravel Grey limestone, rock, porous	0.0 3.0 17.7	3.0 17.7 22.9
5804112	Domestic	25.3	22.9	4.9	13.7	12.2	Brown hardpan, boulders, dense Grey hardpan, boulders, dense Grey limestone, rock, layered	0.0 3.0 12.2	3.0 12.2 25.3
5803015	Domestic	18.9	18.3	6.1	36.4	18.3	Brown hardpan, hard Grey hardpan, hard Grey rock, hard	0.0 0.9 18.3	0.9 18.3 18.9
5803050	Domestic	19.8	18.6	6.1	45.5	17.1	Brown hardpan, packed Grey hardpan, packed Grey gravel, packed Grey limestone, layered	0.0 3.4 9.8 17.1	3.4 9.8 17.1 19.8
5803051	Domestic	21.3	20.7	4.6	45.5	19.5	Brown hardpan, packed Grey hardpan, packed Grey gravel, hardpan, packed Grey limestone, layered	0.0 7.6 11.6 19.5	7.6 11.6 19.5 21.3
5804211	Domestic	15.2	13.7	4.6	45.5	12.8	Previously dug/bored Brown hardpan, boulders, dense Grey limestone, rock, layered	0.0 7.3 12.8	7.3 12.8 15.2
5804243	Not Used	10.7		0.0		9.8	Brown till, hard Grey till, hard Grey sand, packed Grey rock, fractured	0.0 2.4 6.1 9.8	2.4 6.1 9.8 10.7
5804244	Not Used	10.1		0.0		10.1	Brown till, hard Brown sand, boulders, hard Grey till, hard Grey gravel, packed Grey boulders, hard Grey gravel, packed Limestone, rock	0.0 3.0 4.6 7.6 8.8 9.4 10.1	3.0 4.6 7.6 8.8 9.4 10.1 10.1

Table 2: MOECC Water Well Record Summary

Well ID	Water Use	Total depth (m)	Water Found At (m)	Static Water Depth (m)	Pumping Rate (L/min)	Depth to Bedrock (m)	Formation Description	Formation Thickness (m)	
5804245	Not Used	13.4		0.0		0.0	Brown till, boulders, hard Grey till, boulders, hard Grey sand, packed Grey sand, boulders, hard	0.0 2.1 4.3 7.6	2.1 4.3 7.6 13.4
5804246	Not Used	14.3		0.0		14.3	Brown till, hard Brown sand, boulders, hard Grey till, boulders, hard Grey sand, gravel, packed Rock	0.0 3.0 4.3 9.8 14.3	3.0 4.3 9.8 14.3 14.3
5804403	Domestic	23.8	22.9	7.9	45.5	11.9	Brown till, boulders, hard Grey till, boulders, hard Grey limestone, fractured	0.0 3.7 11.9	3.7 11.9 23.8
5804421	Domestic	19.8	18.3	6.1	36.4	16.2	Brown till, hard Grey till, hard Grey limestone, layered	0.0 2.7 16.2	2.7 16.2 19.8
5803093	Domestic	25.0	23.8	3.0	13.7	10.1	Brown till, hard Grey till, hard Grey rock, hard	0.0 2.7 10.1	2.7 10.1 25.0
5803406	Domestic	27.4	25.9	6.1		0.0	Brown hardpan, boulders Brown gravel, sand, clay Grey boulders, hard	0.0 16.8 19.5	16.8 19.5 27.4
5803410	Domestic	21.3	18.3	6.1	22.8	17.1	Brown till, hard Grey till, hard Brown rock, hard	0.0 2.4 17.1	2.4 17.1 21.3
5803052	Domestic	17.4	17.1	6.1	227.5	16.8	Brown fill, stones, packed Grey hardpan, packed Grey gravel, packed Grey limestone, fractured	0.0 2.7 9.1 16.8	2.7 9.1 16.8 17.4
5803081	Domestic	26.2	24.7	10.7	18.2	7.3	Brown till, hard Grey till, hard Grey limestone, hard	0.0 2.4 7.3	2.4 7.3 26.2
5803082	Domestic	19.5	18.6	3.4	22.8	0.0	Brown till, hard Grey till, hard Grey till, hard	0.0 2.4 15.2	2.4 15.2 19.5
5803086	Domestic	18.9	17.4	3.0	36.4	8.2	Brown till, hard Grey till, hard Grey rock, hard	0.0 3.7 8.2	3.7 8.2 18.9
5804664	Domestic	30.5	24.4	6.1	13.7	11.6	Brown till, boulders, dense Grey till, boulders, dense Grey limestone, rock, shale	0.0 3.7 11.6	3.7 11.6 30.5
5804900	Domestic	24.0	17.0 23.0	1.6	364.0	15.5	Brown fill, boulders, loose Brown till, stones, packed Grey till, gravel, packed Grey limestone, layered	0.0 2.1 6.7 15.5	2.1 6.7 15.5 24.1
5804936	Domestic	20.7	20.0	2.1	40.0	12.8	Brown till, hard Grey till, hard Grey gravel, packed Grey limestone, layered	0.0 2.1 12.2 12.8	2.1 12.2 12.8 20.7
5804869	Commercial	24.4	21.0	6.1	60.0	14.0	Grey gravel, fill, loose Brown till, stones, packed Grey till, gravel, packed Grey limestone, layered	0.0 3.0 7.7 14.0	3.0 7.7 14.0 24.4
5805037	Industrial	91.4		0.0		5.5	Brown till Grey till Grey limestone	0.0 3.9 5.5	3.9 5.5 91.4
5805038	Domestic	30.5	27.0	5.4	40.0	14.0	Brown till Grey till Grey gravel Grey limestone	0.0 3.9 12.8 14.0	3.9 12.8 14.0 30.5
5805064	Domestic	23.8	23.0	3.9	20.0	10.4	Brown till Grey till Grey limestone	0.0 3.4 10.4	3.4 10.4 23.8
5805081	Domestic			24.8		3.4	Brown till, hard Grey limestone, layered	0.0 3.5	3.5 50.9
5802930	Domestic	20.1	19.8	4.6	45.5	19.8	Brown till, boulders Grey till, sand Grey gravel, sand Grey limestone	0.0 4.9 19.2 19.8	4.9 19.2 19.8 20.1

Table 2: MOECC Water Well Record Summary

Well ID	Water Use	Total depth (m)	Water Found At (m)	Static Water Depth (m)	Pumping Rate (L/min)	Depth to Bedrock (m)	Formation Description	Formation Thickness (m)	
5804420	Domestic	19.8	18.6	4.6	18.2	6.4	Brown till, hard Grey till, boulders, hard Grey limestone, layered	0.0 3.7 6.4	3.7 6.4 19.8
5804631	Commercial	18.3	8.8 16.5	3.0	45.5	7.6	Brown fill, gravel, packed Grey till, stones, packed Grey limestone, layered	0.0 1.2 7.6	1.2 7.6 18.3
7105481	Test Hole	79.2		0.0		0.0	Brown clay, gravel, hard Grey limestone, layered	0.0 7.6	7.6 79.2
7105497	Test Hole	12.2		0.0		0.0	Brown clay, gravel, hard Grey limestone, layered	0.0 7.0	7.0 12.2
7112494	Domestic	23.7	15.0	4.1	20.0	0.0	Brown clay, silt, hard Grey silt, clay, hard Grey gravel, boulders, packed Grey limestone, layered	0.0 4.3 12.5 14.3	4.3 12.5 14.3 23.7
7174662	Monitoring and Test Hole			0.0		0.0			
7174663	Monitoring and Test Hole			0.0		0.0			
7174664	Monitoring and Test Hole			0.0		0.0			
7165083				5.1		0.0	Brown silt, clay, hard Grey silt, clay, hard Grey gravel, packed Grey limestone, layered	0.0 36.0 13.1 14.6	3.6 13.1 14.6 18.3
7165084	Monitoring and Test	12.1		0.0		0.0	Brown clay, silt, hard Grey clay, soft Grey limestone, layered	0.0 2.5 4.8	2.5 4.8 12.1
7163804	Monitoring and Test	3.7		0.0		0.0	Grey gravel, loose Brown clay, silt, soft Grey gravel, sand, dense	0.0 0.3 1.5	0.3 1.5 3.7
7163805	Monitoring and Test	4.6		0.0		0.0	Brown loam, soft Brown sand, stones, soft Brown clay, stones, soft	0.0 0.3 2.1	0.3 2.1 4.6
7189531	Domestic	24.3	22.0	4.5	45.0	0.0	Brown silt, stones, boulders Grey silt, clay, stones Grey gravel, stones, packed Grey limestone, layered	0.0 2.3 12.8 14.0	2.3 12.8 14.0 24.3
7194476	Domestic	24.3	23.0	3.7	36.0	0.0	Brown clay, silt, hard Grey clay, silt, layered Grey gravel, stones, packed Grey limestone, layered	0.0 5.1 12.4 14.8	5.1 12.4 14.8 24.3

Well ID	Measuring Point Elevation (m ASL)	01-May-95	01-May-97	28-May-98	31-Aug-98	23-Feb-00	09-May-00	30-Aug-00	17-Apr-01	06-Jun-01	03-Aug-01	03-May-02	20-Aug-02	15-May-03	08-Aug-03	25-May-04	18-Aug-04	06-May-05
		m asl	m asl	m asl	m asl	m asl	m asl	m asl	m asl	m asl	m asl	m asl	m asl	m asl	m asl	m asl	m asl	m asl
TW2	62.386	39.876	-	37.946	35.866	37.246	37.536	35.766	36.086	36.396	35.446	38.446	35.336	36.316	34.776	36.416	35.506	35.266
TW3-1	68.873	38.333	-	-	-	-	36.263	34.763	34.063	34.043	33.553	36.313	33.393	34.073	33.813	33.903	33.753	33.863
TW3-2	68.873	69.593	65.833	66.253	65.703	-	67.033	65.763	66.943	66.693	65.263	67.183	65.163	67.383	66.193	66.893	66.603	66.963
TW3-3	68.873	70.193	66.903	67.323	66.813	0	68.243	66.933	68.073	67.843	66.353	68.163	66.183	68.123	66.953	67.833	67.493	67.933
TW4-1	58.13	56.69	51.18	51.54	50.94	50.59	51.13	50.73	50.5	50.53	-	50.73	50.38	50.7	50.56	50.64	50.28	50.43
TW4-2	58.13	48.95	45.22	46.35	45.11	45.77	46.57	45.08	45.74	45.52	-	46.33	44.4	45.79	45.03	45.42	44.97	45.05
TW4-3	58.13	59.33	56.66	56.8	56.56	56.67	57.99	56.65	57.49	57.25	-	57.65	56.44	57.55	56.89	57.39	57.14	57.3
TW5	72.358								70.328	70.108	68.228		68.518	70.228	69.048	69.998	69.378	69.868
TW6-1	60.03																	
TW6-2	60																	
TW7-1	64.484																	
TW7-2	64.189																	
New Shop Well	74.969																	
Old Shop Well	74.904																	
Lab Well	74.407																	
Scale House Well	74.666																	
TW8	73.294																	
TW9-1	67.68																	
TW9-2	67.703																	
TW10	70.764																	
TW11-1	73.994																	
TW11-2	74.076																	
TW11-3	73.41																	
TW12	72.87																	
TW13	73.13																	

- Notes
1. Only elevations reported by CGC prior to 2013.
 2. Elevations re-surveyed by Cornwall Gravel in 2016, may not be consistent with previous reports but reflect most up-to-date information.
 3. m BTOC - metres below top of casing (or measuring point)
 4. m ASL - metres above sea level

CP-16-0280
Cornwall Gravel Company Ltd. - Hydrogeological Assessment
Table1: Monitoring Well Construction Details

[illegible]

CP-16-0280
Cornwall Gravel Company Ltd. - Hydrogeological Assessment
Table1: Monitoring Well Construction Details

[illegible]

CP-16-0280
Cornwall Gravel Company Ltd. - Hydrogeological Assessment
Table1: Monitoring Well Construction Details

[illegible]

Well ID	Well Type	Screened or open hole interval (m BGS)	Screened or open hole interval (m ASL)	Thickness of Tested Interval (m)	Test Number ²	Test Type	Analysis	Hydraulic Conductivity (m/s) ¹	Transmissivity (m2/day) ¹
1-1	Piezometer	33.5 - 61.0	23.9 - -3.6	27.5	1	Rising Head Slug	Hvorslev	7.00E-07	0.03
1-2	Piezometer	16.1 - 30.6	41.3 - 26.8	14.5	1	Rising Head Slug	Hvorslev	1.07E-05	4.21
1-3*	Piezometer	6.8 - 12.8	50.6 - 44.6	6.0	1	Constant Head		6.34E-05 to 8.09E-05	10.96-13.98
3-1	Piezometer	29.3 - 68.9	39.2 - -0.4	39.6	1	Rising Head Slug	Hvorslev	3.87E-09	0.0004
3-2	Piezometer	17.4 - 26.4	51.1 - 42.1	9.0	1	Rising Head Slug	Hvorslev	2.95E-06	1.23
3-3	Piezometer	12.8 - 13.9	55.8 - 54.7	1.1	1	Rising Head Slug	Hvorslev	2.71E-05	1.17
4-1	Piezometer	34.8 - 61.0	23.3 - -2.9	26.2	1	Rising Head Slug	Hvorslev	9.92E-09	0.0003
4-3**	Piezometer	6.2 - 11.2	51.9 - 46.9	5.0	1	Constant Head		2.51E-05 to 2.91E-05	2.17
TW1	Open Hole	6.1 - 61	51.3 - -3.6	54.9	1	Constant Rate Pumping	Theis Jacob Theis Recovery	4.0056E-08 1.68657E-08 2.89036E-06	0.19 0.08 13.71
TW2	Open Hole	6.1 - 61.2	56.29 - 1.19	55.1	2 3 4	Step Pumping Step Pumping Constant Rate Pumping	Theis Recovery Jacob Theis Recovery Jacob (Slope 1) Jacob (Slope 2) Theis Recovery	8.40223E-08 1.8695E-07 3.80201E-07 8.23419E-07 3.56885E-06 1.23513E-06	0.4 0.89 1.81 3.92 16.99 5.88
TW3	Open Hole	12.8 - 68.9	56.07 - -0.03	56.1	1	Constant Rate Pumping	Jacob Theis Recovery	1.54734E-07 1.71239E-07	0.75 0.83
TW4	Open Hole	6.1 - 61	52.03 - -2.87	54.9	1 2	Constant Rate Pumping Constant Rate Pumping	Jacob (Slope 1) Jacob (Slope 2) Theis Recovery (Slope 1) Theis Recovery (Slope 2) Jacob (Slope 1) Jacob (Slope 2) Theis Recovery	1.26493E-07 4.0056E-08 2.74067E-08 1.58116E-07 8.85448E-08 5.48135E-08 1.47575E-07	0.6 0.19 0.13 0.75 0.42 0.26 0.7
TW7-1	Open Hole	9.7 - 73.2	54.78 - -8.72	63.5	2	Constant Rate Pumping	Jacob	2.5E-09 to 4.6E-08	0.012 - 0.22
TW7-2	Open Hole	7 - 12.2	57.19 - 51.99	5.2	1	Constant Rate Pumping	Jacob & Theis Recovery	4.6E-06 to 5.9E-06	28.2
McLeod House	Open Hole	? - 91.4	? - -16.5		2	Constant Rate Pumping Constant Rate Pumping Constant Rate Pumping	Theis Jacob Theis Recovery	- - -	0.19 0.21 0.42
TW10	Open Hole	13.7 - 111.86	56.686 - -41.474	98.2	1	Constant Rate Pumping	Theis Cooper-Jacob	3.77313E-07 2.07522E-06	3.2 17.6
TW11-1	Open Hole	20.12 - 116.4	53.428 - -42.852	96.3	1	Constant Rate Pumping	Theis Cooper-Jacob	3.77313E-08 7.54626E-07	0.32 6.4

* k value average of 6.34E-05 and 8.09E-05
** k value average of 2.51E-05 and 2.91E-05

Notes
1. For pump-tested wells, transmissivity reported by BGC, hydraulic conductivity calculated by McIntosh Perry. For slug-tested wells, "b" value used by BGC to calculate T does not necessarily correspond to screened interval.
2. Hydraulic conductivity analysis was not completed for all pumping tests. Only pumping tests where hydraulic conductivity analysis was completed are summarized here.

Table 5
Summary of Laboratory Results
Cornwall Gravel - MacLeod III and V Quarries

Sample ID	Units	MRL	ODWSOG	Limit Type	TW 10_1	TW 10_2	TW 11-I_1	TW11-I_2
Sample Date					08-Nov-16	08-Nov-16	10-Nov-16	10-Nov-16
Location					MacLeod V		MacLeod III	
Parameter:								
Alkalinity	mg/L	5	30-500	OG	287	279	272	287
Ammonia (N)	mg/L	0.01			0.42	0.6	0.82	0.49
Calcium	mg/L	1			3.68	16.5	28.3	20.7
Chloride	mg/L	1	250	AO	256	45	383	76
Colour	TCU	2	5	AO	22	7	ND	ND
Conductivity	uS/cm	5			1380	720	1740	821
Dissolved Organic Carbon	mg/L	0.5	5	AO	2	1.8	2.3	2.5
Fluoride	mg/L	0.1	1.5	MAC	0.8	0.4	0.5	0.4
Iron	mg/L	0.03	0.3	AO	0.27	ND	12.7	1.05
Hardness	mg/L	1	80-100	OG	17	100	175	129
Potassium	mg/L	1			5.64	6.83	10.5	6.52
Magnesium	mg/L	1			1.99	14.2	25.3	18.8
Manganese	mg/L	0.01	0.05	AO	ND	0.011	0.079	0.022
Sodium	mg/L	2	200	AO	274	96.2	251	106
Nitrate (N)	mg/L	0.1	10	MAC	ND	ND	ND	ND
Nitrite (N)	mg/L	0.1	1	MAC	ND	ND	ND	ND
pH		1	6.5-8.5	OG	8.5	8.2	8.2	8.3
Phenols	mg/L	0.001			0.004	ND	ND	ND
Sulphate	mg/L	1	500	AO	33	37	36	31
Sulphide	mg/L	0.02	0.05	AO	0.23	4.54	0.86	0.78
Tannin & Lignin	mg/L	0.1			0.4	0.8	0.1	ND
Total Dissolved Solids (Cond-Calc)	mg/L	1	500	AO	780	720	902	430
Total Kjeldahl Nitrogen	mg/L	0.1			0.5	0.6	0.8	0.5
Turbidity	NTU	0.1	5 ^a	AO	92.4	58.4	151	37.8
Escherichia Coli	ct/100mL	1	0	MAC	ND	ND	ND	ND
Faecal Coliforms	ct/100mL	1	0	MAC	ND	ND	ND	ND
Heterotrophic Plate Count	ct/1mL	10			220	60	10	30
Total Coliforms	ct/100mL	1	0	MAC	ND	ND	ND	1

Notes:

a

Field turbidity measurements were subject to a limit of 1.0 NTU (as per Procedure D-5-5)

MRL

Method Reporting Limit

ODWSOG

Ontario Drinking Water Standards, Objectives, and Guidelines (MOECC, 2003 rev. 2006; PIBs 4449e01)

AO

Aesthetic Objective

MAC

Maximum Allowable Concentration (Health-Related Parameter)

OG

Operational Guideline

ND

Non detectable

mg/L

Milligrams per litre

TCU

True Colour Units

uS/cm

Microsiemens per centimeter

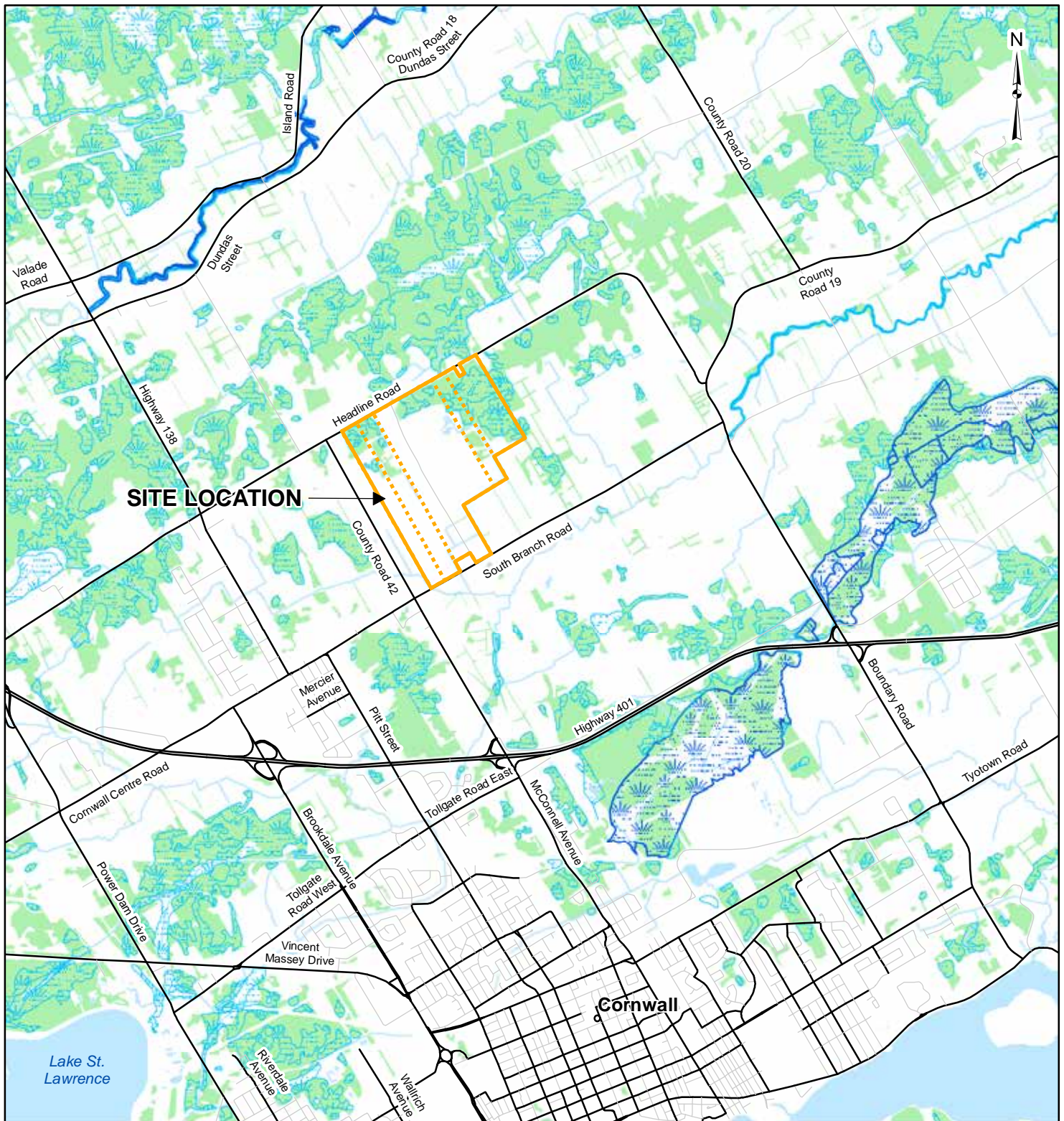
NTU

Nephelometric Turbidity Units

ct/100 mL

Number of bacteria-forming colonies per 100 mL

FIGURES



LEGEND

- | | |
|--|---|
| Site Location | — Watercourse |
| Permit Boundary | Waterbody |
| Local Road | Provincially Significant Wetland |
| Major Road | Unevaluated Wetland |
| | Wooded Area |

REFERENCE

Basedata provided by the Ontario Ministry of Natural Resources, 2016.

CLIENT:

CORNWALL GRAVEL CO. LTD.

PROJECT:

**HYDROGEOLOGICAL STUDY -
MacLEOD QUARRY**

TITLE:

SITE LOCATION



115 Walgreen Rd., RR#3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742

PROJECT NO: CP-16-0280

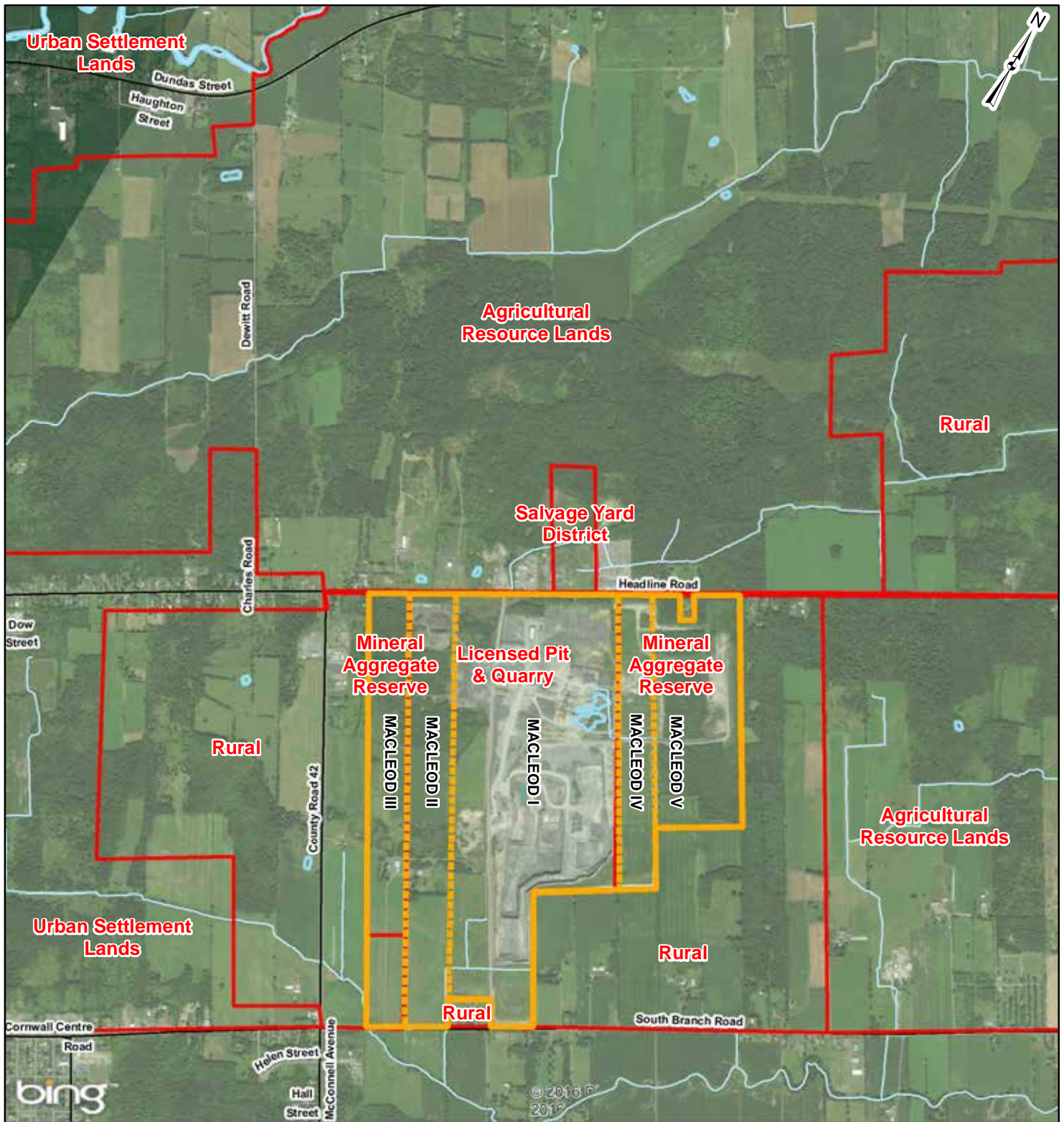
FIGURE:

Date Nov. 17, 2016

GIS JD

Checked By DA

1

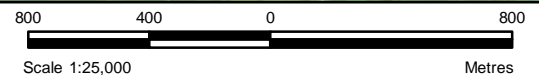


LEGEND

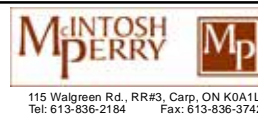
- Zoning Boundary
- Approximate Site Boundary
- Permit Boundary
- Local Road
- Major Road
- Watercourse
- Waterbody

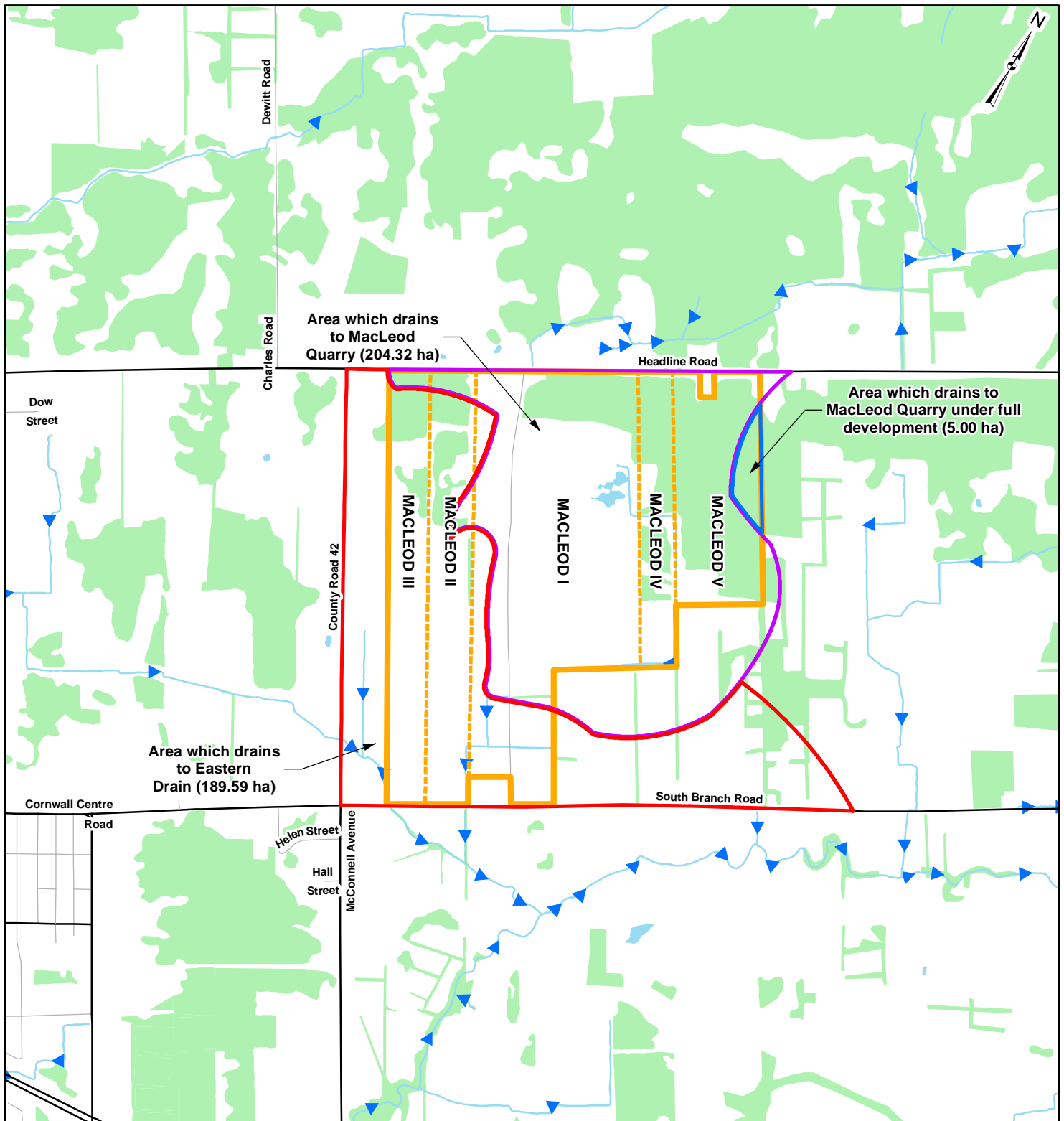
REFERENCE

Basedata provided by the Ontario Ministry of Natural Resources, 2016.



CLIENT: CORNWALL GRAVEL CO. LTD.		
PROJECT: HYDROGEOLOGICAL STUDY - MacLEOD QUARRY		
TITLE: SURROUNDING LAND USE		
PROJECT NO: CP-16-0280		FIGURE:
Date	Nov. 17, 2016	2
GIS	JD	
Checked By	DA	





LEGEND

- | | |
|--|-------------|
| Approximate Site Boundary | Local Road |
| Permit Boundary | Major Road |
| Area which drains to Eastern Drain | Watercourse |
| Area which drains to MacLeod Quarry | Waterbody |
| Area which drains to MacLeod Quarry under full development | Wooded Area |

REFERENCE

Basedata provided by the Ontario Ministry of Natural Resources, 2016.

CLIENT:

CORNWALL GRAVEL CO. LTD.

PROJECT:

HYDROGEOLOGICAL STUDY -
MacLEOD QUARRY

TITLE:

DRAINAGE AND TOPOGRAPHY



115 Walgreen Rd., RR#3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742

PROJECT NO: CP-16-0280

FIGURE:

Date Nov. 17, 2016

GIS JD

Checked By DA

3

H:\01 Project - Proposals\2016 Jobs\CP\OCP-16-0280 Cornwall Gravel_ARA Application_Cornwall13 - GIS\mxd\CP-16-0280_HydroG04OnSiteMonitoringNetwork.mxd




LEGEND

- Existing Well
- Test Well
- Approximate Site Boundary
- Permit Boundary
- 500m Buffer
- Major Road
- Local Road

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources, 2016.

CLIENT:	CORNWALL GRAVEL CO. LTD.		
PROJECT:	ARA APPLICATION - MacLEOD QUARRY		
TITLE:	ON-SITE MONITORING NETWORK		
 115 Walgreen Rd., RR#3, Carp, ON K0A1L0 Tel: 613-836-2184 Fax: 613-836-3742	PROJECT NO: CP-16-0280		FIGURE:
	Date	Nov. 17, 2016	4
	GIS	JD	
	Checked By	DA	

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LEGEND

- Existing Well
- MOECC Well Record
- Test Well
- Approximate Site Boundary
- Permit Boundary
- 500m Buffer
- Major Road
- Local Road

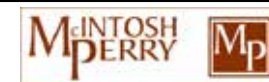
REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources, 2016.

CLIENT: CORNWALL GRAVEL CO. LTD.

PROJECT: ARA APPLICATION -
MacLEOD QUARRY

TITLE: EXISTING PERMITS AND
SURROUNDING WELLS



PROJECT NO: CP-16-0280	FIGURE:
Date	Nov. 17, 2016
GIS	JD
Checked By	DA

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LEGEND

- Existing Well
- Test Well
- Groundwater Elevation Contour (masl)
- Approximate Site Boundary
- Permit Boundary
- 500m Buffer
- Major Road
- Local Road

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2016.
Groundwater elevations provided by Cornwall Gravel Co. Ltd., 2016.

CLIENT:	CORNWALL GRAVEL CO. LTD.		
PROJECT:	ARA APPLICATION - MacLEOD QUARRY		
TITLE:	GROUNDWATER ELEVATION CONTOURS DEEP BEDROCK DECEMBER 2016		
 115 Walgreen Rd., RR#3, Carp, ON K0A1L0 Tel: 613-836-2184 Fax: 613-836-3742	PROJECT NO:	CP-16-0280	FIGURE:
	Date	Dec., 09, 2016	6
	GIS	JD	
	Checked By	DA	


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- LEGEND
- Existing Well
 - Test Well
 - Groundwater Elevation Contour (masl)
 - Approximate Site Boundary
 - Permit Boundary
 - 500m Buffer
 - Major Road
 - Local Road

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2016.
Groundwater elevations provided by Cornwall Gravel Co. Ltd., 2016.

CLIENT:	CORNWALL GRAVEL CO. LTD.		
PROJECT:	ARA APPLICATION - MacLEOD QUARRY		
TITLE:	GROUNDWATER ELEVATION CONTOURS SHALLOW BEDROCK DECEMBER 2016		
	PROJECT NO:	CP-16-0280	FIGURE:
	Date	Dec., 09, 2016	7
	GIS	JD	
	Checked By	DA	

APPENDIX A

Borehole Logs

PROJECT: 936500

Hole Number: 1

DATE: November 14, 1994

Location: southeast of old McLeod residence

DRILL TYPE: rotary with
water

Depth	Stratigraphic Column	Install.	Major Bedding Planes & Soft Beds	Elevation (m asl)	Comments	Estimated Cumulative Yield (L/min)
0				60.4	0 to 4.57 m - OVERBURDEN 0 TO 1.52 is clay; from 1.52 to 4.57 - silty-sand till	
				55.83		<9
				51.87	4.57 to 8.53 Bobcaygeon Formation - medium to thickly bedded limestones	
15		1-3	46.68 44.55	47.60	8.53 to 17.37 UPPER GULL RIVER FORMATION -thinly to medium bedded limestone with small shale partings	<9
				43.03		<9
			38.76		17.37 to 60.96 m LOWER GULL RIVER FORMATION -interbedded limestone, silty dolostone, quartz sandstone and shale	<9
		1-2	33.58	34.01	-thinly to medium bedded limestone with small shale interbeds	<9
30			30.53 to 29.92 27.79 to 27.48 24.48 to 23.82 21.69		-soft zones at 13.72, 15.85, 21.64, 26.82, 29.87 to 30.48, 32.61 to 32.92, 35.97 to 36.58, 38.71*, 60.35 to 60.96	<9
					-*at 38.71 m was the level where the first noticeable green dolostone was encountered	<9
					-the majority of the soft zones are shale beds	<9
45						<9
						<9
60		1-1	0.05 to -0.56	-0.56		<9

PROJECT: 936500

Hole Number: 2

DATE: November 14, 1994

DRILL TYPE: rotary with
waterLocation: west of existing quarry, on central bedrock area
on McLeod III

Depth	Stratigraphic Column	Install.	Major Bedding Planes & Soft Beds	Elevation (m asl)	Comments	Estimated Cumulative Yield (L/min)
0				63.1		
				60.97	0 to 2.13 m - OVERBURDEN/BEDROCK - slabs of bedrock interbedded with till	
				58.83	2.13 to 4.27 Bobcaygeon Formation - medium to thickly bedded limestones	<9
					4.27 to 14.02 UPPER GULL RIVER FORMATION -thinly to medium bedded limestone with small shale partings	<9
15				49.00	14.02 to 60.96 m LOWER GULL RIVER FORMATION -interbedded limestone, silty dolostone, quartz sandstone and shale	<9
				41.46	-thinly to medium bedded limestone with small shale interbeds	<9
				41.15 to 39.94	-soft zones at 21.64, 21.95 to 23.16, 34.14, 40.54 to 42.67, 46.33, 46.94 50.90, 52.12	<9
30					-most of the water was encountered at 34.14 and 40.54 to 42.67 m	<9
				28.96		<25
				22.56 to 20.43		<25
45				16.77		<35
				16.16		
				12.20		<35
				10.98		
60				2.14		<35

PROJECT: 936500

Hole Number: 3

DATE: November 14, 1994

Location: northwest to north central portion of McLeod III

DRILL TYPE: rotary with
water

Depth	Stratigraphic Column	Install.	Major Bedding Planes & Soft Beds	Elevation (m asl)	Comments	Estimated Cumulative Yield (L/min)
0				69.0	0 to 11.28 m - OVERBURDEN - till, silty sand for upper 3.66 m the grades into dense sandy-silt	<5
15		3-3		57.72 55.08 54.67	11.28 to 14.33 m Bobcaygeon Formation - medium to thickly bedded limestones	<5
					14.33 to 24.38 m UPPER GULL RIVER FORMATION -thinly to medium bedded limestone with small shale partings	<9
		3-2		44.62		<9
30				42.61	24.38 to 65.84 m LOWER GULL RIVER FORMATION -interbedded limestone, silty dolostone, quartz sandstone and shale	<9
				38.22 36.39		<9
45			H ₂ S	28.46	-soft zones at 30.78, 32.61, 40.54, 57.20, 58.52 and 65.84 m -at 40.54 n there was a distinct sulphur smell -the majority of the soft zones are shale beds	<23
						<23
						<23
60				11.76 10.48		<30
		3-1		3.16 1.94	65.84 to 67.06 m ROCKCLIFFE FORMATION (possibly) -limestone, silty dolostone, quartz sandstone and shale	<30

PROJECT: 936500

Hole Number: 4

DATE: November 14, 1994

Location: south central portion of McLeod III, east side of
farm access roadDRILL TYPE: rotary with
water

Depth	Stratigraphic Column	Install.	Major Bedding Planes & Soft Beds	Elevation (m asl)	Comments	Estimated Cumulative Yield (L/min)
0				59.1	0 to 5.18 m - OVERBURDEN - clay to 0.61 m, 0.61 to 4.72 is a silty sand till, from 4.72 to 5.18 m is sand and gravel * - 5 to 5 IGPM is present in the sand and gravel	
				53.92		13 - 23
		4-3		47.88	5.18 to 12.80 m Bobcaygeon Formation - upper 1 m consists of slabs of bedrock and till - below: medium to thickly bedded limestones	<5
15				46.30		
			42.95		12.80 to 20.73 m UPPER GULL RIVER FORMATION -thinly to medium bedded limestone with small shale partings	<5
				38.37		
					20.73 to 60.96 m LOWER GULL RIVER FORMATION -interbedded limestone, silty dolostone, quartz sandstone and shale	<9
30		4-2	31.06 to 30.45	27.01	-thinly to medium bedded limestone with small shale interbeds -soft zones at 16.15, 20.73, 28.04, 28.35, 28.65, 33.83, 34.75, 45.11, 47.55, 46.94 48.16 and 57.0 to 57.3	<9
			25.27 24.35			<9
						<9
45			13.99		-the majority of the soft zones are shale beds	
			12.16 to 10.94			<14
						<14
60		4-1	2.10 to 1.80	-1.86		<14
		60.96				

Ministry
of the
EnvironmentThe Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

TW 5

County or District St. Albans	Township/City/Town/Village Comwall South St. Albans	Con. block tract survey, etc. 4	Lot 3
Owner's Surname Brown	First Name Eleanor	Date completed 7 Feb 2000	Day 7 month Feb year 2000
Address 142 Cornwall			

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)					
General colour	Most common material	Other material	General description	Depth - feet	
				From	To
brown	fill	boulders	Hard	0	12
grey	fill	boulders	Hard	12	39
grey	limestone		Fracture	39	78

WATER RECORD		CASING & OPEN HOLE RECORD				SCREEN		PLUGGING & SEALING RECORD		
Water found at - feet 75	Kind of water <input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas <input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas <input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas <input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas <input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas	Inside diam. inches 8 3/4	Material <input type="checkbox"/> Steel <input type="checkbox"/> Cast-iron <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic <input type="checkbox"/> Sheet <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic <input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic	Wall thickness inches 1.88	Depth - feet From 0 To 41	Size of opening (Slot No.) 0 25	Diameter Inches 0 25	Length Feet 41	Material and type concrete	Depth at top of screen Feet 41

PUMPING TEST		PUMPING RATE		DURATION OF PUMPING	
Pumping test method <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Meter	Water level at end of pumping 26 feet	Pumping rate 20 GPM	Duration of pumping 1 hour 0 mins	Water level during 15 minutes 26 feet	30 minutes 26 feet
Flowing gage rate GPM 60	Pump intake seal at feet 60	Water at end of test <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Cloudy	Recommended pump rate 10 GPM		

FINAL STATUS OF WELL	
<input checked="" type="checkbox"/> Water supply <input type="checkbox"/> Observation well <input type="checkbox"/> Test hole <input type="checkbox"/> Recharge well	<input type="checkbox"/> Abandoned, insufficient supply <input type="checkbox"/> Abandoned, poor quality <input type="checkbox"/> Abandoned (Other) <input type="checkbox"/> Dewatering
<input type="checkbox"/> Unfinished <input type="checkbox"/> Replacement well	
WATER USE	
<input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial	<input type="checkbox"/> Commercial <input type="checkbox"/> Municipal <input type="checkbox"/> Public supply <input type="checkbox"/> Cooling & air conditioning
<input type="checkbox"/> Not use <input type="checkbox"/> Other	
METHOD OF CONSTRUCTION	
<input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary (conventional) <input type="checkbox"/> Rotary (inverted) <input checked="" type="checkbox"/> Rotary (air)	<input type="checkbox"/> Air percussion <input type="checkbox"/> Boring <input type="checkbox"/> Diamond <input type="checkbox"/> Jetting

LOCATION OF WELL	
In diagram below show distances of well from road and lot line. Indicate north by arrow.	
209912	

Name of Well Contractor Calles Bone Ag. 1414	Well Contractor's Licence No. 1414
Address St. Albans	Well Technician's Licence No. 0-193
Name of Well Owner David Brown	Submission date 2 Feb 2000
Signature of Well Contractor David Brown	

MINISTRY USE ONLY

Instructions for Completing Form

- For use in the Province of Ontario only. This document is a permanent legal document. Please retain for future reference.
 • All Sections must be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.
 • Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.
 • All metre measurements shall be reported to 1/10th of a metre.
 • Please print clearly in blue or black ink only.

Well Owner's Information and Location of Well Information

First Name CORNWALL		Last Name G. Panel		Mailing Address (Street Number/Name, RR, Lot, Concession) P.O. Box 67 390 Elm Street ST W			
County/District/Municipality STORMONT		Township/City/Town/Village CORNWALL		Province Ontario	Postal Code L6H 5R9	Telephone Number (include area code) 613-932-6571	
Address of Well Location (County/District/Municipality) STORMONT				Township South STORMONT		Lot 4	Concession H
RR#/Street Number/Name South Branch Rd				City/Town/Village CORNWALL		Site/Compartment/Block/Tract etc.	
GPS Reading	NAD 83	Zone 18	Easting 520127E	Northing 4991071	Unit Make/Model Magellan	Mode of Operation: u/m	<input type="checkbox"/> Undifferentiated <input checked="" type="checkbox"/> Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

[illegible]

Hole Diameter		
Depth	Metres	Diameter
From	To	Centimetres
0	2.3	2123
2.3	91.44	1555

Water Record			
Water found at _____ Metres		Kind of Water	
<input type="checkbox"/> m	<input type="checkbox"/> Fresh	<input type="checkbox"/> Sulphur	
<input type="checkbox"/> Gas	<input type="checkbox"/> Salty	<input type="checkbox"/> Minerals	
<input type="checkbox"/> Other:			
<input checked="" type="checkbox"/> m	<input checked="" type="checkbox"/> Fresh	<input type="checkbox"/> Sulphur	
<input type="checkbox"/> Gas	<input type="checkbox"/> Salty	<input type="checkbox"/> Minerals	
<input type="checkbox"/> Other:			
<input type="checkbox"/> m	<input type="checkbox"/> Fresh	<input type="checkbox"/> Sulphur	
<input type="checkbox"/> Gas	<input type="checkbox"/> Salty	<input type="checkbox"/> Minerals	
<input type="checkbox"/> Other:			

After test of well yield, water was

☐ Clear and sediment free

☐ Other, specify _____

Chlorinated ☐ Yes ☐ No

Construction Record				
Inside diam centimetres	Material	Wall thickness centimetres	Depth	Metres
			From	To
Casing				
15.55	<input checked="" type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized	0.48	0.60	7.3
	<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized			
	<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized			
Screen				
Outside diam	<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized	Slot No.		
No Casing or Screen				
	<input checked="" type="checkbox"/> Open hole	73	41.41	

Test of Well Yield				
Pumping test method	Draw Down		Recovery	
	Time min	Water Level Metres	Time min	Water Level Metres
Pump intake set at - (metres)	Static Level			
Pumping rate - (litres/min)	1		1	
Duration of pumping ____ hrs + ____ min	2		2	
Final water level end of pumping ____ metres	3		3	
Recommended pump type <input type="checkbox"/> Shallow <input type="checkbox"/> Deep	4			
Recommended pump depth, ____ metres	5		5	
Recommended pump rate, (litres/min)	10		10	
	15		15	
If flowing give rate -	20		20	
(litres/min)	25		25	
If pumping discontin- ued, give reason.	30		30	
	40		40	
	50		50	
	60		60	

Depth set at - Metres		Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
From	To		
0	13	Cement slurry	1.1 bags

Method of Construction			
<input type="checkbox"/> Cable Tool	<input checked="" type="checkbox"/> Rotary (air)	<input type="checkbox"/> Diamond	<input type="checkbox"/> Digging
<input type="checkbox"/> Rotary (conventional)	<input type="checkbox"/> Air percussion	<input type="checkbox"/> Jetting	<input type="checkbox"/> Other
<input type="checkbox"/> Rotary (reverse)	<input type="checkbox"/> Boring	<input type="checkbox"/> Driving	

Water Use			
<input type="checkbox"/> Domestic	<input checked="" type="checkbox"/> Industrial	<input type="checkbox"/> Public Supply	<input type="checkbox"/> Other
<input type="checkbox"/> Stock	<input type="checkbox"/> Commercial	<input type="checkbox"/> Not used	
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Municipal	<input type="checkbox"/> Cooling & air conditioning	

Final Status of Well			
<input checked="" type="checkbox"/> Water Supply	<input type="checkbox"/> Recharge well	<input type="checkbox"/> Unfinished	<input type="checkbox"/> Abandoned, (Other _____)
<input checked="" type="checkbox"/> Observation well	<input type="checkbox"/> Abandoned, insufficient supply	<input type="checkbox"/> Dewatering	
<input type="checkbox"/> Test Hole	<input type="checkbox"/> Abandoned, poor quality	<input type="checkbox"/> Replacement well	

Well Contractor/Technician Information		
Name of Well Contractor	Well Contractor's Licence No.	
Cutler/Durgen	1414	
Business Address (street name, number, city, etc.)		
5741 Burton		
Name of Well Technician (last name, first name)	Well Technician's Licence No.	
Stame	0793	
Signature of Technician/Contractor	Date Submitted	
[Signature]	YYY MM DD 06 06 06	

<div style="display: flex; justify-content: space-between;"> 11/14 60 60 </div>	
Location of Well	
<p>In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.</p> <div style="text-align: center; font-size: 2em; margin-top: 20px;"> M-C-6 </div>	
Audit No. Z 43150	Date Well Completed yyyy 06 06 00
Was the well owner's information package delivered? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Date Delivered yyyy MM 00

Ministry Use Only					
Data Source			Contractor		
Date Received	yyyy	mm	dd	Date of Inspection	yyyy mm dd
Remarks			Well Record Number		



Measurements recorded in: ☒ Metric ☐ Imperial

Page _____ of _____

Well Owner's Information

First Name Cornwall Gravel Company Ltd.	Last Name / Organization Cornwall Gravel Company Ltd.	E-mail Address N/A	<input type="checkbox"/> Well Constructed by Well Owner
Mailing Address (Street Number/Name) P.O. Box 67 - 3910 Eleventh St. W.	Municipality CORNWALL	Province ON	Postal Code K6H5K9
		Telephone No. (inc. area code) 932 6511	

Well Location

Address of Well Location (Street Number/Name) South Branch	Township North Elmdale	Lot 4	Concession 6
County/District/Municipality North Elmdale	City/Town/Village Cornwall	Province Ontario	Postal Code K6H5K9
UTM Coordinates NAD 83 185307804991073	Zone 18	Easting 530780	Northing 4991073
Municipal Plan and Sublot Number		Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
Yellow clay	clay	clay	clay	0 to 2.5
Grey clay	clay	clay	clay	2.5 to 4.3
Grey clay	clay	clay	clay	4.3 to 6.1

Annular Space		
Depth Set at (m/ft) From 0	To 6	Type of Sealant Used (Material and Type) grout
Volume Placed (m ³ /ft ³) 2.30		

Method of Construction	Well Use
<input type="checkbox"/> Cable Tool <input type="checkbox"/> Rotary (Conventional) <input type="checkbox"/> Rotary (Reverse) <input type="checkbox"/> Boring <input type="checkbox"/> Air Percussion <input checked="" type="checkbox"/> Other, specify Drill Rig	<input type="checkbox"/> Public <input type="checkbox"/> Domestic <input type="checkbox"/> Livestock <input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial <input type="checkbox"/> Other, specify
<input type="checkbox"/> Diamond <input type="checkbox"/> Jetting <input type="checkbox"/> Driving <input type="checkbox"/> Digging	<input type="checkbox"/> Commercial <input type="checkbox"/> Municipal <input checked="" type="checkbox"/> Test Hole <input type="checkbox"/> Cooling & Air Conditioning
<input type="checkbox"/> Not used <input type="checkbox"/> Dewatering <input checked="" type="checkbox"/> Monitoring	

Construction Record - Casing				Status of Well
Inside Diameter (cm/in) 155	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Steel	Wall Thickness (cm/in) 1.6	Depth (m/ft) From 0 To 6	<input type="checkbox"/> Water Supply <input type="checkbox"/> Replacement Well <input type="checkbox"/> Test Hole <input type="checkbox"/> Recharge Well <input type="checkbox"/> Dewatering Well <input checked="" type="checkbox"/> Observation and/or Monitoring Hole <input type="checkbox"/> Alteration (Construction) <input type="checkbox"/> Abandoned, Insufficient Supply <input type="checkbox"/> Abandoned, Poor Water Quality <input type="checkbox"/> Abandoned, other, specify <input type="checkbox"/> Other, specify

Construction Record - Screen			
Outside Diameter (cm/in) 155	Material (Plastic, Galvanized, Steel) Steel	Slot No. 1.6	Depth (m/ft) From 0 To 6

Water Details		Hole Diameter	
Water found at Depth (m/ft) 7	Kind of Water: <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Untested	Depth (m/ft) From 0 To 6	Diameter (cm/in) 21.23
Water found at Depth (m/ft) 6	Kind of Water: <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Untested	Depth (m/ft) From 0 To 6	Diameter (cm/in) 12.1
Water found at Depth (m/ft) 6	Kind of Water: <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Untested	Depth (m/ft) From 0 To 6	Diameter (cm/in) 15.55

Well Contractor and Well Technician Information			
Business Name of Well Contractor Isco Well Drilling Ltd.	Well Contractor's Licence No. 741117		
Business Address (Street Number/Name) 151 Montecore St	Municipality North		
Province ON	Postal Code K6H5K9	Business E-mail Address N/A	
Hus. Telephone No. (inc. area code) 932 6511	Name of Well Technician (Last Name, First Name) SENIER MICHAEL		
Well Technician's Licence No. 214193	Signature of Technician and/or Contractor [Signature]		Date Submitted 2011/04/11

Results of Well Yield Testing				
After test of well yield, water was: <input type="checkbox"/> Clear and sand free <input type="checkbox"/> Other, specify	Draw Down		Recovery	
	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:	Static Level			
	1		1	
Pump intake set at (m/ft)	2		2	
Pumping rate (l/min / GPM)	3		3	
Duration of pumping hrs + min	4		4	
Final water level end of pumping (m/ft)	5		5	
If flowing give rate (l/min / GPM)	10		10	
Recommended pump depth (m/ft)	15		15	
Recommended pump rate (l/min / GPM)	20		20	
Well production (l/min / GPM)	25		25	
Disinfected?	30		30	
<input type="checkbox"/> Yes <input type="checkbox"/> No	40		40	
	50		50	
	60		60	

Map of Well Location
Please provide a map below following instructions on the back.
[Map Area]

Comments: South Branch	Well owner's information package delivered <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Date Package Delivered 2011/04/11	Date Work Completed 2011/04/11
Ministry Use Only		Audit No. 2131557	
Received			

Well Owner's Information

First Name <i>CORNWALL</i>	Last Name <i>GREVEL/COMPTON</i>	E-mail Address <i>NA</i>	<input type="checkbox"/> Well Constructed by Well Owner	
Mailing Address (Street Number/Name, RR) <i>P.O. BOX 67 390 ELVERTS/US</i>	Municipality <i>CORNWALL</i>	Province <i>ON</i>	Postal Code <i>M6H5R7</i>	Telephone No. (inc. area code) <i>613 982 6521</i>

Part A Construction and/or Major Alteration of a Well

Address of Well Location (Street Number/Name, RR)			Township		Lot	Concession
South Branch			South Stormont		4	4
County/District/Municipality			City/Town/Village		Province	Postal Code
Stormont			Cornwall		Ontario	K6H 5V9
UTM Coordinates	Zone	Easting	Northing	GPS Unit Make	Model	Mode of Operation: <input type="checkbox"/> Undifferentiated <input checked="" type="checkbox"/> Averaged
NAD 83	18	500500	7991100	Trimble	1400	<input type="checkbox"/> Differentiated, specify

Overburden and Bedrock Materials (see instructions on the back of this form)

[illegible]

Annular Space/Abandonment Sealing Record

Depth Set at (Metres)		Type of Sealant Used (Material and Type)	Volume Placed (Cubic Metres)
From	To		
0	9.7	Hydraulic cement grout	

Method of Construction

<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Diamond	<input type="checkbox"/> Public	<input type="checkbox"/> Commercial	<input type="checkbox"/> Not used
<input type="checkbox"/> Rotary (Conventional)	<input type="checkbox"/> Jetting	<input type="checkbox"/> Domestic	<input type="checkbox"/> Municipal	<input type="checkbox"/> Dewatering
<input type="checkbox"/> Rotary (Reverse)	<input type="checkbox"/> Drilling	<input type="checkbox"/> Livestock	<input checked="" type="checkbox"/> Test Hole	<input type="checkbox"/> Monitoring
<input checked="" type="checkbox"/> Rotary (Air)	<input type="checkbox"/> Digging	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Cooling & Air Conditioning	
<input type="checkbox"/> Air percussion	<input type="checkbox"/> Boring	<input type="checkbox"/> Industrial		
<input type="checkbox"/> Other, specify _____		<input type="checkbox"/> Other, specify _____		

Status of Well

<input type="checkbox"/> Water Supply	<input type="checkbox"/> Dewatering Well	<input type="checkbox"/> Observation and/or Monitoring Hole
<input type="checkbox"/> Replacement Well	<input type="checkbox"/> Abandoned, Insufficient Supply	<input type="checkbox"/> Alteration (Construction)
<input checked="" type="checkbox"/> Test Hole	<input type="checkbox"/> Abandoned, Poor Water Quality	<input type="checkbox"/> Other, <i>specify</i> _____
<input type="checkbox"/> Recharge Well	<input type="checkbox"/> Abandoned, other, <i>specify</i> _____	

Location of Well

Please provide a map below showing:

- all property boundaries, and measurements sufficient to locate the well in relation to fixed points,
- an arrow indicating the North direction
- detailed drawings can be provided as attachments no larger than legal size (8.5" by 14")
- digital pictures of inside of well can also be provided

Results of Well Yield Testing

Check box if after test of well yield, water was:	Draw Down		Recovery	
	Time (Min)	Water Level (Metres)	Time (Min)	Water Level (Metres)
<input type="checkbox"/> Clear and sand free <input type="checkbox"/> Cannot develop to sand-free state	Static Level		Static Level	
If pumping discontinued, give reason:	1		1	
Pumping test method	2		2	
Pump intake set at (Metres)	3		3	
Pumping rate (Litres/min)	4		4	
Duration of pumping hrs + min	5		5	
Final water level end of pumping (Metres)	10		10	
Recommended pump type <input type="checkbox"/> Shallow <input type="checkbox"/> Deep	15		15	
Recommended pump depth Metres	20		20	
Recommended pump rate (Litres/min)	25		25	
If flowing give rate (Litres/min)	30		30	
	40		40	
	50		50	
	60		60	

Water Details

Water found at Depth	Kind of Water
Metres <input type="checkbox"/> Gas	<input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals
Water found at Depth	Kind of Water
Metres <input type="checkbox"/> Gas	<input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals
Water found at Depth	Kind of Water
Metres <input type="checkbox"/> Gas	<input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals

Casing Used

☐ Galvanized
☒ Steel
☐ Fibreglass
☐ Plastic
☐ Concrete

Screen Used

☐ Galvanized
☐ Steel
☐ Fibreglass
☐ Plastic
☐ Concrete

Casing and Well Details

Diameter of the Hole (Centimetres)	15.55
Depth of the Hole (Metres)	71.281
Wall Thickness (Metres)	

No Casing and Screen Used

☒ Open Hole

Disinfected?

☐ Yes ☒ No

Ministry Use Only

Audit No. 79819	Well Contractor No.
Date Received (yyyy/mm/dd)	Date of Inspection (yyyy/mm/dd)
Remarks	

Date Well Completed (yyyy/mm/dd) 3/20/2018	Was the well owner's information package delivered? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Date the Well Record and Package Delivered to Well Owner (yyyy/mm/dd)
--	---	--

Well Contractor and Well Technician Information

Business Name of Well Contractor Browning Well Drilling		Well Contractor's Licence No. 1151114
Business Address (Street No./Name, number, RR) 152 500 East		Municipality Milton
Province Ontario	Postal Code H0A 3C0	Business E-mail Address NA
Bus. Telephone No. (inc. area code) 613 995 791		Name of Well Technician (Last Name, First Name) Michael Orner
Well Technician's Licence No. 3141913	Signature of Technician <i>[Signature]</i>	Date Submitted (yyyy/mm/dd) 2008/05/15

Well Owner's Information

First Name
CDRMwall

Last Name
Lancelotti

E-mail Address
NA

☐ Well Constructed by Well Owner

Mailing Address (Street Number/Name, RR)
Popo 67 390 Eleventh Street

Municipality
Cornwall

Province
ON

Postal Code
K6H5R9

Telephone No. (inc. area code)
613 458 1966

Part A Construction and/or Major Alteration of a Well

Address of Well Location (Street Number/Name, RR)
Headline South Branch

Township
South Stormont

Lot
4

Concession
4

County/District/Municipality
South Stormont

City/Town/Village
Cornwall

Province
Ontario

Postal Code
K6H5R9

UTM Coordinates
NAD 83

Zone
18

Easting
521000

Northing
19711900

GPS Unit Make
Trim

Model
Magellan

Mode of Operation:
☐ Undifferentiated
☐ Averaged
☐ Differentiated, specify _____

Overburden and Bedrock Materials (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	Depth (Metres) To
Brown	Clay	gravel	Hard	0	7
Grey	limestone		layered	7	12.12

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	Depth Set at (Metres) To	Type of Sealant Used (Material and Type)	Volume Placed (Cubic Metres)
0	7	cement grout	1 Bag

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Rotary (Air) ☐ Digging ☐ Air percussion ☐ Boring ☐ Other, specify _____

Water Use

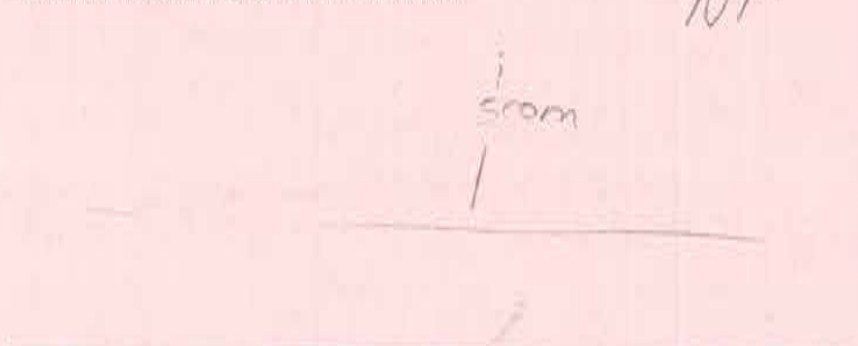
☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☐ Test Hole ☐ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify _____

Status of Well

☐ Water Supply ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Replacement Well ☐ Abandoned, Insufficient Supply ☐ Alteration (Construction) ☒ Test Hole ☐ Abandoned, Poor Water Quality ☐ Other, specify _____ ☐ Recharge Well ☐ Abandoned, other, specify _____

Location of Well

Please provide a map below showing:
- all property boundaries, and measurements sufficient to locate the well in relation to fixed points,
- an arrow indicating the North direction,
- detailed drawings can be provided as attachments no larger than legal size (8.5" by 14")
- digital pictures of inside of well can also be provided



Results of Well Yield Testing

Check box if after test of well yield, water was:
☐ Clear and sand free
☐ Cannot develop to sand-free state
If pumping discontinued, give reason: _____

Pumping test method: _____

Pump intake set at (Metres): _____

Pumping rate (Litres/min): _____

Duration of pumping: _____ hrs + _____ min

Final water level end of pumping (Metres): _____

Recommended pump type:
☐ Shallow ☐ Deep

Recommended pump depth: _____ Metres

Recommended pump rate (Litres/min): _____

If flowing give rate (Litres/min): _____

Time (Min)	Draw Down		Recovery	
	Water Level (Metres)	Static Level	Time (Min)	Water Level (Metres)
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Water Details

Water found at Depth	Kind of Water
1.8 Metres <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals	
Metres <input type="checkbox"/> Gas <input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals	
Metres <input type="checkbox"/> Gas <input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals	

Casing Used

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete

Screen Used

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete

Casing and Well Details

Diameter of the Hole (Centimetres)
15.55

Depth of the Hole (Metres)
12.12

Well Thickness (Metres)
0.18

Inside Diameter of the Casing (Metres)
15.55

Depth of the Casing (Metres)
1.01

No Casing and Screen Used

☐ Open Hole

Disinfected?
☐ Yes ☒ No

Ministry Use Only

Audit No.
279820

Date Received (yyyy/mm/dd)
2008/05/15

Well Contractor No.

Date of Inspection (yyyy/mm/dd)

Remarks

Well Contractor and Well Technician Information

Business Name of Well Contractor
Bourgeois Well Drilling

Well Contractor's Licence No.
11411141

Business Address (Street No./Name, number, RR)
1152 500 East

Municipality
Natick

Province
Ontario

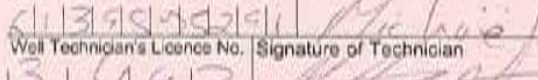
Postal Code
K1A9K1

Business E-mail Address
NA

Bus. Telephone No. (inc. area code)
613 991 5291

Name of Well Technician (Last Name, First Name)
Michael Genie

Well Technician's Licence No.
314913

Signature of Technician


Date Submitted (yyyy/mm/dd)
2008/05/15

0506E (11/2006)

Well Owner's Copy

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Instructions for Completing Form

- For use in the Province of Ontario only. This document is a permanent legal document. Please retain for future reference.
- All Sections must be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.
- Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.
- All metre measurements shall be reported to 1/10th of a metre.
- Please print clearly in blue or black ink only.

Well Owner's Information and Location of Well Information

First Name CORNWALL	Last Name GRAVE/COMP/H	Mailing Address (Street Number/Name, RR, Lot, Concession) Robb 67 390 Eleventh St
County/District/Municipality Stormont	Township/City/Town/Village Cornwall	Province Ontario
Address of Well Location (County/District/Municipality) Stormont South Branch	Township South Stormont	Postal Code K6H 5R9
RR/Street Number/Name Head 1, nekd	City/Town/Village Cornwall	Telephone Number (include area code) 613-932-6571
GPS Reading 8.3	NAD 18	Zone 519456 E
Easting 4992650	Northing 1402	Unit Make/Model Magellan
Mode of Operation u-tm	Undifferentiated <input checked="" type="checkbox"/>	Averaged <input checked="" type="checkbox"/>
Differentially, specify _____		

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Metres To
Brown	fill		Hard	0	3.90
grey	fill		Hard	3.90	12.80
grey	gravel		Packed	12.80	14.02
grey	limestone		layered	14.02	30.48

Hole Diameter			Construction Record				Test of Well Yield				
Depth From	Metres To	Diameter Centimetres	Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Metres To	Pumping test method	Draw Down	Recovery	
0	14.02	213						2 HR sub	Time min	Water Level Metres	
14.02	30.48	563						Pump intake set at - (metres) 27	Static Level	8.60	
			Casing						Pumping rate - (litres/min) 40	1	7.40
			<input checked="" type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized						Duration of pumping 1 hrs = 0 min	2	6.46
			<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized						Final water level end of pumping metres	3	6.85
			<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized						Recommended pump type <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep	4	7.0
			<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized						Recommended pump depth 27 metres	5	7.15
			Screen						Recommended pump rate 40 (litres/min)	10	7.57
			<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized						If flowing give rate - (litres/min)	15	7.95
			No Casing or Screen						If pumping discontinued, give reason.	20	8.22
			<input checked="" type="checkbox"/> Open hole							25	8.40
										30	8.53
										40	8.67
										50	8.60
										60	

Plugging and Sealing Record			<input checked="" type="checkbox"/> Annular space	<input type="checkbox"/> Abandonment
Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)	
0	12	Cement Grout	6 bags	
Method of Construction				
<input type="checkbox"/> Cable Tool <input checked="" type="checkbox"/> Rotary (air) <input type="checkbox"/> Diamond <input type="checkbox"/> Digging <input type="checkbox"/> Rotary (conventional) <input type="checkbox"/> Air percussion <input type="checkbox"/> Jetting <input type="checkbox"/> Other <input type="checkbox"/> Rotary (reverse) <input type="checkbox"/> Boring <input type="checkbox"/> Driving				
Water Use				
<input checked="" type="checkbox"/> Domestic <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Public Supply <input type="checkbox"/> Other <input type="checkbox"/> Stock <input type="checkbox"/> Commercial <input type="checkbox"/> Not used <input type="checkbox"/> Irrigation <input type="checkbox"/> Municipal <input type="checkbox"/> Cooling & air conditioning				
Final Status of Well				
<input checked="" type="checkbox"/> Water Supply <input type="checkbox"/> Recharge well <input type="checkbox"/> Unfinished <input type="checkbox"/> Abandoned, (Other) <input type="checkbox"/> Observation well <input type="checkbox"/> Abandoned, insufficient supply <input type="checkbox"/> Dewatering <input type="checkbox"/> Test Hole <input type="checkbox"/> Abandoned, poor quality <input type="checkbox"/> Replacement well				

Location of Well	
In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.	
Audit No. 43156	Date Well Completed 06/06/9
Was the well owner's information package delivered? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Date Delivered 06/06/9

Well Contractor/Technician Information	
Name of Well Contractor Gilles Boar 2 eois	Well Contractor's Licence No. 1414
Business Address (street name, number, city etc.) 54 H 16 est	
Name of Well Technician (last name, first name) Same	Well Technician's Licence No. 0-193
Signature of Technician/Contractor 	Date Submitted 06/06/9

Ministry Use Only	
Data Source	Contractor
Date Received 06/06/9	Date of Inspection 06/06/9
Remarks	Well Record Number

Well Owner's Information

First Name <i>Cornwall</i>	Last Name / Organization <i>BAVEL Company Ltd.</i>	E-mail Address <i>N/A</i>	<input type="checkbox"/> Well Constructed by Well Owner
Mailing Address (Street Number/Name) <i>20 Ross 67-290 Eleventh St W.</i>	Municipality <i>Cornwall</i>	Province <i>ON</i>	Postal Code <i>K6H5K9</i>
Telephone No. (inc. area code) <i>613 326 5711</i>			

Well Location

Address of Well Location (Street Number/Name) <i>South Branch</i>	Township <i>South Stormont</i>	Lot <i>41</i>	Concession <i>41</i>
County/District/Municipality <i>Ontario</i>	City/Town/Village <i>Cornwall</i>	Province <i>Ontario</i>	Postal Code <i>K6H5K9</i>
UTM Coordinates Zone Easting <i>18 519605</i>	Northings <i>1912625</i>	Municipal Plan and Sublot Number	Other

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
<i>Brown</i>	<i>silt</i>	<i>clay, stone</i>	<i>shale</i>	<i>0 - 3.6</i>
<i>Grey</i>	<i>silt</i>	<i>clay, stone</i>	<i>shale</i>	<i>3.6 - 13.1</i>
<i>Grey</i>	<i>gravel</i>		<i>packed</i>	<i>13.1 - 14.6</i>
<i>Grey</i>	<i>limestone</i>		<i>layered</i>	<i>14.6 - 18.28</i>

Annular Space		
Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)

Method of Construction	Well Use
<input type="checkbox"/> Cable Tool <input type="checkbox"/> Rotary (Conventional) <input type="checkbox"/> Rotary (Reverse) <input type="checkbox"/> Boring <input type="checkbox"/> Air percussion <input type="checkbox"/> Other, specify	<input type="checkbox"/> Diamond <input type="checkbox"/> Jetting <input type="checkbox"/> Driving <input type="checkbox"/> Digging <input type="checkbox"/> Public <input type="checkbox"/> Domestic <input type="checkbox"/> Livestock <input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial <input type="checkbox"/> Other, specify

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	From	To
<i>1.55</i>	<i>Steel</i>	<i>4.8</i>	<i>4.6</i>	<i>14.6</i>	
<i>15.55</i>	<i>open hole</i>		<i>14.6</i>	<i>18.28</i>	

Construction Record - Screen			
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)
			From To

Water Details		Hole Diameter	
Water found at Depth <i>16 m (m/ft)</i>	Kind of Water: <input checked="" type="checkbox"/> Fresh <input checked="" type="checkbox"/> Untested	Depth (m/ft)	Diameter (cm/in)
		From To	
<i>16 m (m/ft)</i>	<i>Gas</i> <input type="checkbox"/> Other, specify	<i>0</i>	<i>14.6</i>
<i>16 m (m/ft)</i>	<i>Gas</i> <input type="checkbox"/> Other, specify	<i>14.6</i>	<i>18.28</i>
<i>16 m (m/ft)</i>	<i>Gas</i> <input type="checkbox"/> Other, specify		<i>15.55</i>

Well Contractor and Well Technician Information			
Business Name of Well Contractor <i>Monroe Well Drilling Ltd.</i>	Well Contractor's Licence No. <i>714117</i>		
Business Address (Street Number/Name) <i>151 MONTEE D'ARREST</i>	Municipality <i>NATTON</i>		
Province <i>ON</i>	Postal Code <i>K6A3C0</i>	Business E-mail Address <i>N/A</i>	
Bus. Telephone No. (inc. area code) <i>613 326 5711</i>	Name of Well Technician (Last Name, First Name) <i>GENTLE, MICHAEL</i>		
Well Technician's Licence No. <i>214193</i>	Signature of Technician and/or Contractor <i>[Signature]</i>	Date Submitted <i>2007/12/12</i>	

Results of Well Yield Testing					
After test of well yield, water was:		Draw Down		Recovery	
<input type="checkbox"/> Clear and sand free		Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
<input type="checkbox"/> Other, specify					
If pumping discontinued, give reason:		Static Level	<i>5.09</i>		
		1	<i>6.20</i>	1	
Pump intake set at (m/ft) <i>16</i>		2	<i>6.00</i>	2	
Pumping rate (l/min / GPM) <i>3.6</i>		3	<i>6.11</i>	3	
Duration of pumping <i>1</i> hrs + <i>36</i> min		4	<i>6.38</i>	4	
Final water level end of pumping (m/ft) <i>7.67</i>		5	<i>6.44</i>	5	
If flowing give rate (l/min / GPM)		10	<i>6.96</i>	10	
		15	<i>7.18</i>	15	
Recommended pump depth (m/ft) <i>16</i>		20	<i>7.36</i>	20	
Recommended pump rate (l/min / GPM) <i>3.6</i>		25	<i>7.31</i>	25	
Well production (l/min / GPM)		30	<i>7.45</i>	30	
Disinfected?		40	<i>7.54</i>	40	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		50	<i>7.62</i>	50	
		60	<i>7.67</i>	60	

Map of Well Location	
Please provide a map below following instructions on the back.	
Comments: <i>[Signature]</i>	

PROJECT No: CP-16-0280

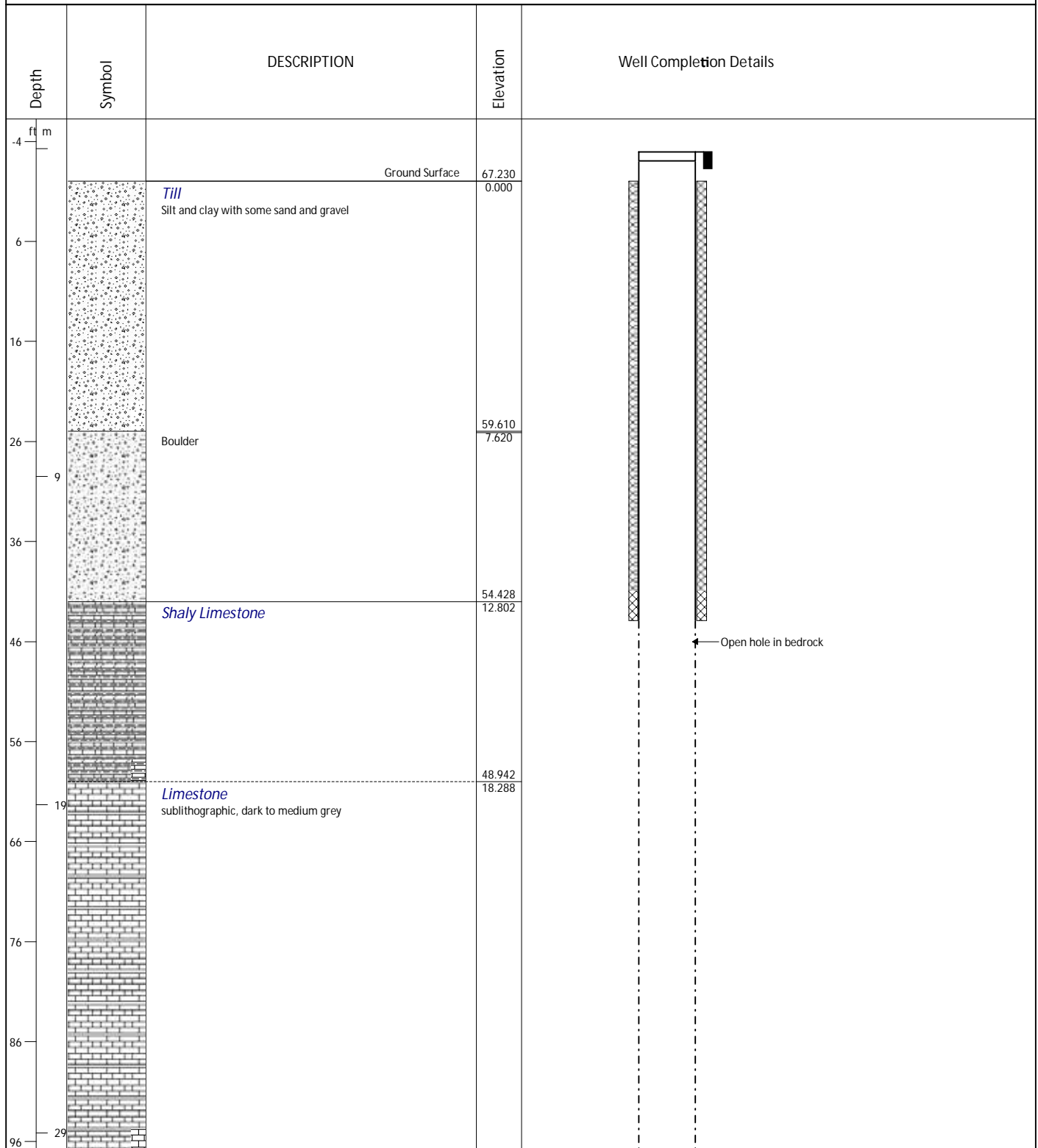
SITE: Cornwall Gravel - MacLeod III & V Properties

CLIENT: Cornwall Gravel

LOGGED BY: DA

DRILLER: Bourgeois Well Drilling

DATE DRILLED: 29-Aug-16



NOTES: Elevations in meters above sea level (m asl)
- Provided by Cornwall Gravel

EASTING:

ELEVATION - TOP OF PVC RISER:

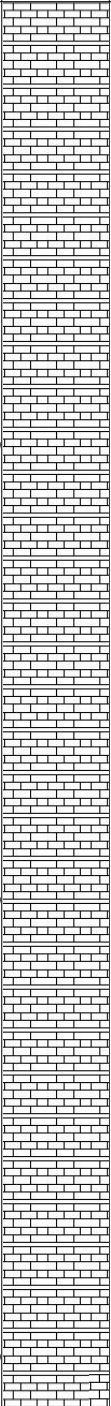
NORTHING:

REVIEWED BY:

MAP DATUM:

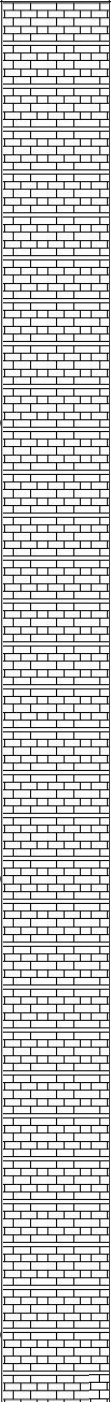
TEMPLATE: MP - MW only

PROJECT No: CP-16-0280	LOGGED BY: DA
SITE: Cornwall Gravel - MacLeod III & V Properties	DRILLER: Bourgeois Well Drilling
CLIENT: Cornwall Gravel	DATE DRILLED: 29-Aug-16

Depth	Symbol	DESCRIPTION	Elevation	Well Completion Details	
06					
16					
26					
39					
36					
46					
56					
49					
66					
76					
86					
59					
96					

NOTES: Elevations in meters above sea level (m asl)	EASTING:	ELEVATION - TOP OF PVC RISER:
	NORTHING:	REVIEWED BY:
	MAP DATUM:	TEMPLATE: MP - MW only

PROJECT No: CP-16-0280	LOGGED BY: DA
SITE: Cornwall Gravel - MacLeod III & V Properties	DRILLER: Bourgeois Well Drilling
CLIENT: Cornwall Gravel	DATE DRILLED: 29-Aug-16

Depth	Symbol	DESCRIPTION	Elevation	Well Completion Details	
206					
216					
226					
236					
246					
256					
266					
276					
286					
296					

NOTES: Elevations in meters above sea level (m asl)	EASTING:	ELEVATION - TOP OF PVC RISER:
	NORTHING:	REVIEWED BY:
	MAP DATUM:	TEMPLATE: MP - MW only

PROJECT No: CP-16-0280

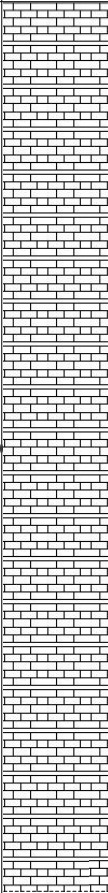
SITE: Cornwall Gravel - MacLeod III & V Properties

CLIENT: Cornwall Gravel

LOGGED BY: DA

DRILLER: Bourgeois Well Drilling

DATE DRILLED: 29-Aug-16

Depth	Symbol	DESCRIPTION	Elevation	Well Completion Details
<div> <div>306</div> <div>316</div> <div>326</div> <div>336</div> <div>346</div> <div>356</div> <div>366</div> <div>376</div> <div>386</div> <div>396</div> </div> <div> <div>10</div> <div>110</div> <div>120</div> </div>		<div>End of hole</div> <div>Well terminated in bedrock at target depth</div>	<div>-42.498</div> <div>109.728</div>	<div></div>

NOTES: Elevations in meters above sea level (m asl)

EASTING:

NORTHING:

MAP DATUM:

ELEVATION - TOP OF PVC RISER:

REVIEWED BY:

TEMPLATE: MP - MW only

PROJECT No: CP-16-0280

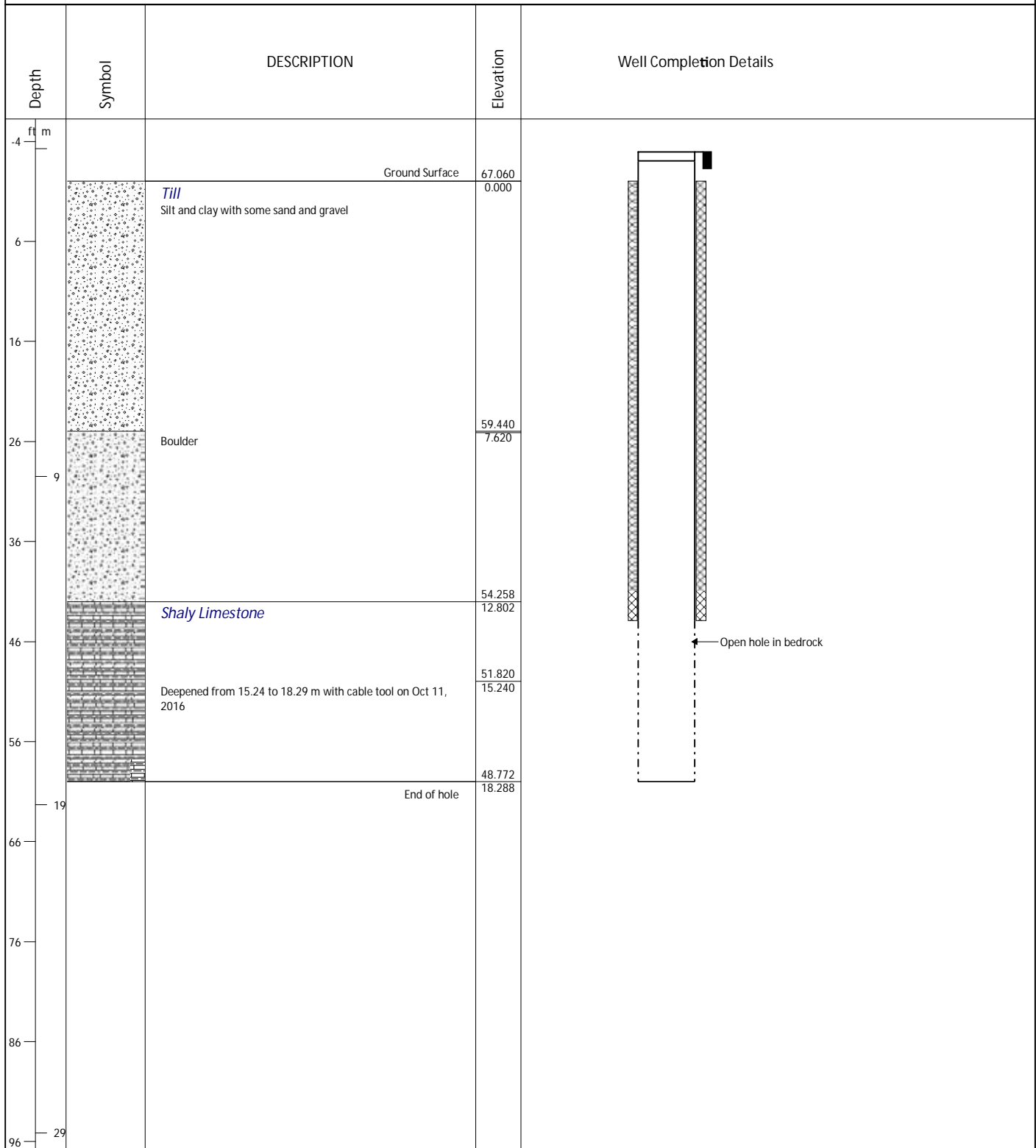
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CLIENT: Cornwall Gravel

LOGGED BY: DA

DRILLER: Bourgeois Well Drilling

DATE DRILLED: 30-Aug-16



NOTES: Elevations in meters above seal level (m asl)
- Provided by Cornwall Gravel

EASTING:

ELEVATION - TOP OF PVC RISER:

NORTHING:

REVIEWED BY:

MAP DATUM:

TEMPLATE: MP - MW only

PROJECT No: CP-16-0280

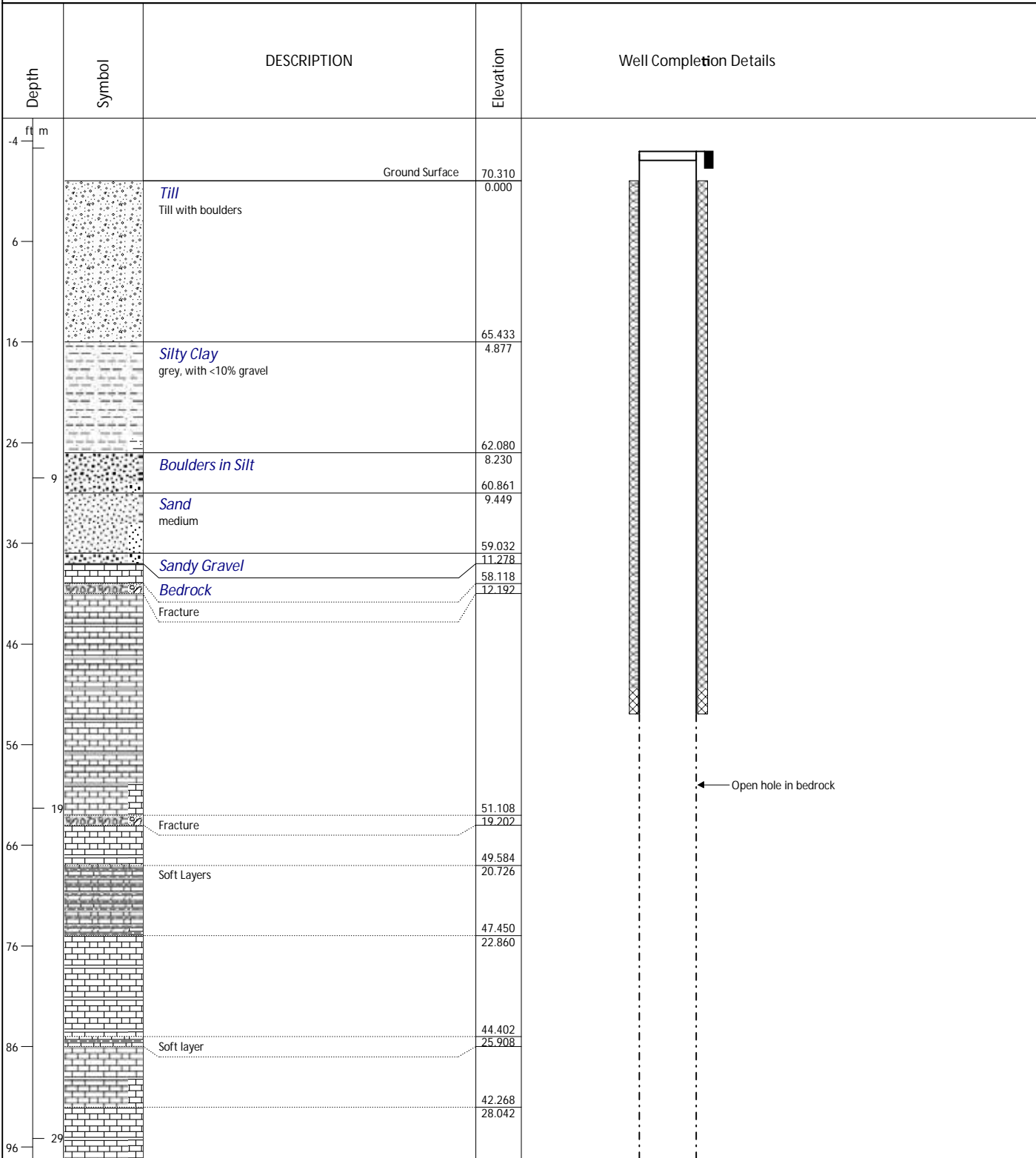
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CLIENT: Cornwall Gravel

LOGGED BY: TM

DRILLER: Bourgeois Well Drilling

DATE DRILLED: 31-Aug-16



NOTES: Elevations in meters above sea level (m asl)

- Provided by Cornwall Gravel

EASTING:

NORTHING:

MAP DATUM:

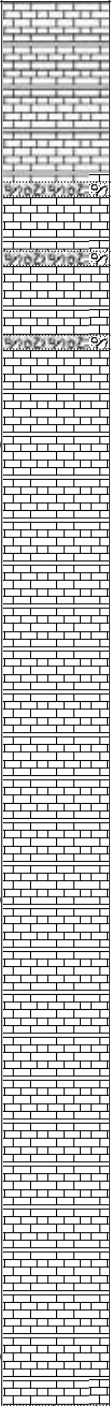
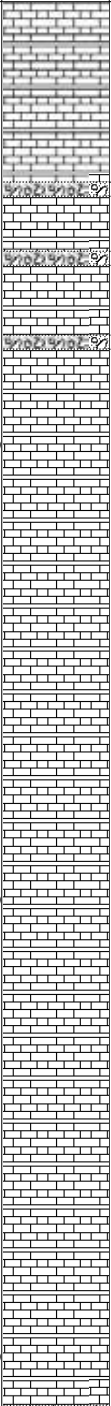
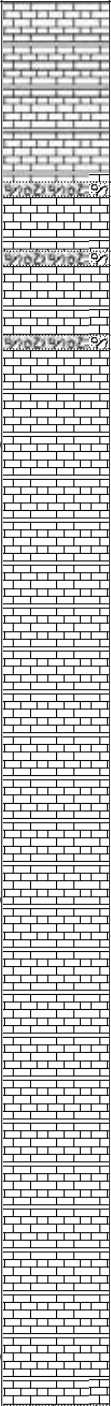
ELEVATION - TOP OF PVC RISER:

REVIEWED BY:

TEMPLATE: MP - MW only

PROJECT No: CP-16-0280
 SITE: Cornwall Gravel - MacLeod III & V Properties
 CLIENT: Cornwall Gravel

LOGGED BY: TM
 DRILLER: Bourgeois Well Drilling
 DATE DRILLED: 31-Aug-16

Depth	Symbol	DESCRIPTION	Elevation	Well Completion Details	
06			37.087		
		Fracture	33.223		
			35.563		
16		Fracture	34.747		
			33.734		
		Fracture	36.576		
26					
36					
46					
56					
66					
76					
86					
96					
			10.264		
			60.046		

NOTES: Elevations in meters above sea level (m asl)
 EASTING:
 NORTHING:
 MAP DATUM:

ELEVATION - TOP OF PVC RISER:
 REVIEWED BY:
 TEMPLATE: MP - MW only



PROJECT No: CP-16-0280

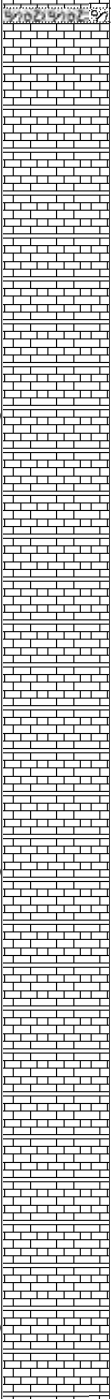
SITE: Cornwall Gravel - MacLeod III & V Properties

CLIENT: Cornwall Gravel

LOGGED BY: TM

DRILLER: Bourgeois Well Drilling

DATE DRILLED: 31-Aug-16

Depth	Symbol	DESCRIPTION	Elevation	Well Completion Details	
206		Fracture			
216					
226					
236					
246					
256					
266					
276					
286					
296					

NOTES: Elevations in meters above sea level (m asl)

EASTING:

NORTHING:

MAP DATUM:

ELEVATION - TOP OF PVC RISER:

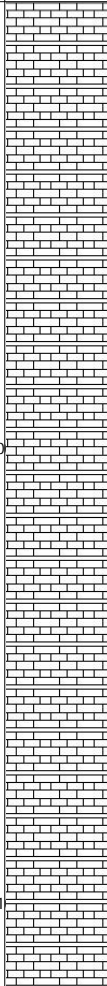

REVIEWED BY:

TEMPLATE: MP - MW only



SHEET 4 of 4

DATE DRILLED: 31-Aug-16

Depth	Symbol	DESCRIPTION	Elevation	Well Completion Details
306				
316				
326				
336				
346				
356				
366				
376		Well terminated in bedrock at target depth	-41.552	
386			111.862	
396				

TEMPLATE: MP - MW only

PROJECT No: CP-16-0280

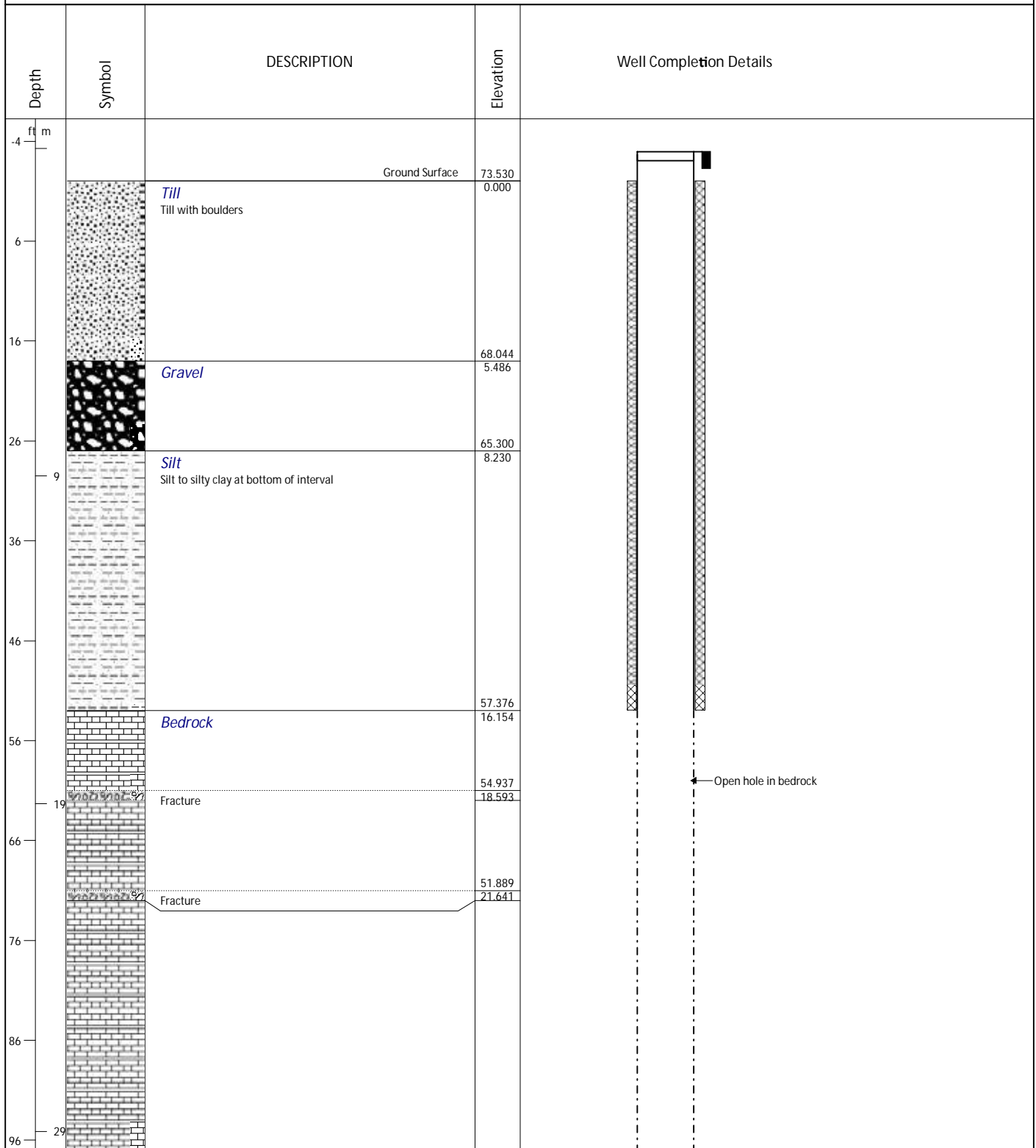
SITE: Cornwall Gravel - MacLeod III & V Properties

CLIENT: Cornwall Gravel

LOGGED BY: TM

DRILLER: Bourgeois Well Drilling

DATE DRILLED: Oct 3/4, 2016



NOTES: Elevations in meters above sea level (m asl)
- Provided by Cornwall Gravel

EASTING:

ELEVATION - TOP OF PVC RISER:

NORTHING:

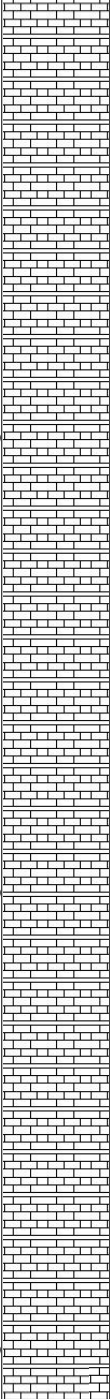
REVIEWED BY:

MAP DATUM:

TEMPLATE: MP - MW only

PROJECT No: CP-16-0280
 SITE: Cornwall Gravel - MacLeod III & V Properties
 CLIENT: Cornwall Gravel

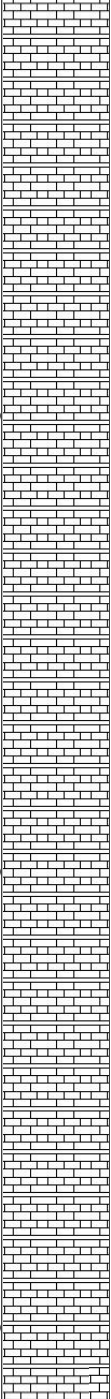
LOGGED BY: TM
 DRILLER: Bourgeois Well Drilling
 DATE DRILLED: Oct 3/4, 2016

Depth	Symbol	DESCRIPTION	Elevation	Well Completion Details	
06					
16					
26					
39					
36					
46					
56					
49					
66					
76					
86					
59					
96					

NOTES: Elevations in meters above sea level (m asl)
 EASTING:
 NORTHING:
 MAP DATUM:

ELEVATION - TOP OF PVC RISER:
 REVIEWED BY:
 TEMPLATE: MP - MW only

PROJECT No: CP-16-0280	LOGGED BY: TM
SITE: Cornwall Gravel - MacLeod III & V Properties	DRILLER: Bourgeois Well Drilling
CLIENT: Cornwall Gravel	DATE DRILLED: Oct 3/4, 2016

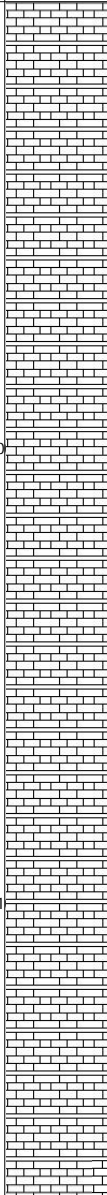
Depth	Symbol	DESCRIPTION	Elevation	Well Completion Details	
206					
216					
226					
236					
246					
256					
266					
276					
286					
296					

NOTES: Elevations in meters above sea level (m asl)	EASTING:	ELEVATION - TOP OF PVC RISER:
	NORTHING:	REVIEWED BY:
	MAP DATUM:	TEMPLATE: MP - MW only



SHEET 4 of 4

DATE DRILLED: Oct 3/4, 2016

Depth	Symbol	DESCRIPTION	Elevation	Well Completion Details	
306					
316					
326					
336					
346					
356					
366					
376					
386					
396					
End of hole		Well terminated in bedrock at target depth	-42.904 116.434		

TEMPLATE: MP - MW only

PROJECT No: CP-16-0280

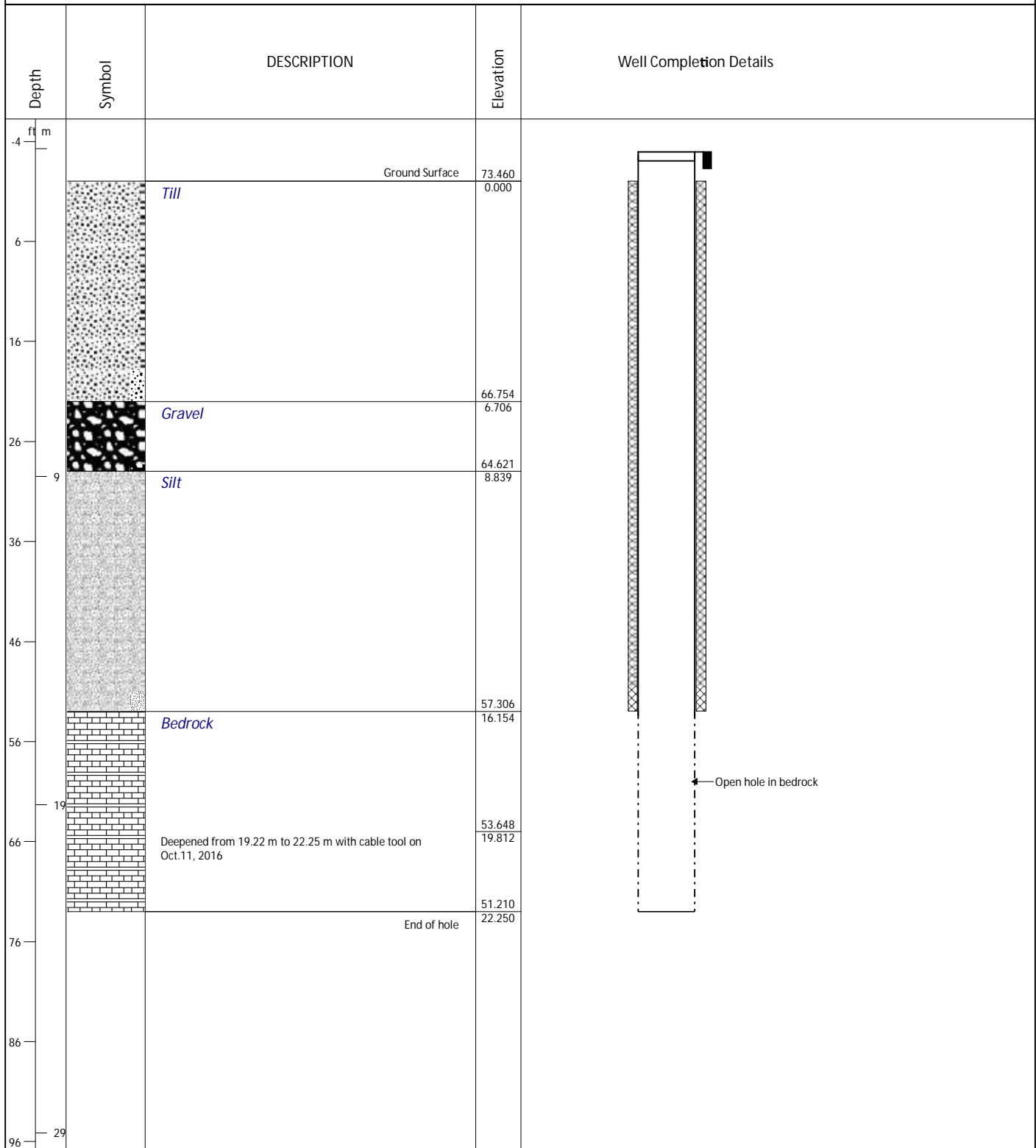
SITE: Cornwall Gravel - MacLeod III & V Properties

CLIENT: Cornwall Gravel

LOGGED BY: TM

DRILLER: Bourgeois Well Drilling

DATE DRILLED: 31-Aug-16



NOTES: Elevations in meters above sea level (m asl)
- Provided by Cornwall Gravel

EASTING:

ELEVATION - TOP OF PVC RISER:

NORTHING:

REVIEWED BY:

MAP DATUM:

TEMPLATE: MP - MW only

PROJECT No: CP-16-0280

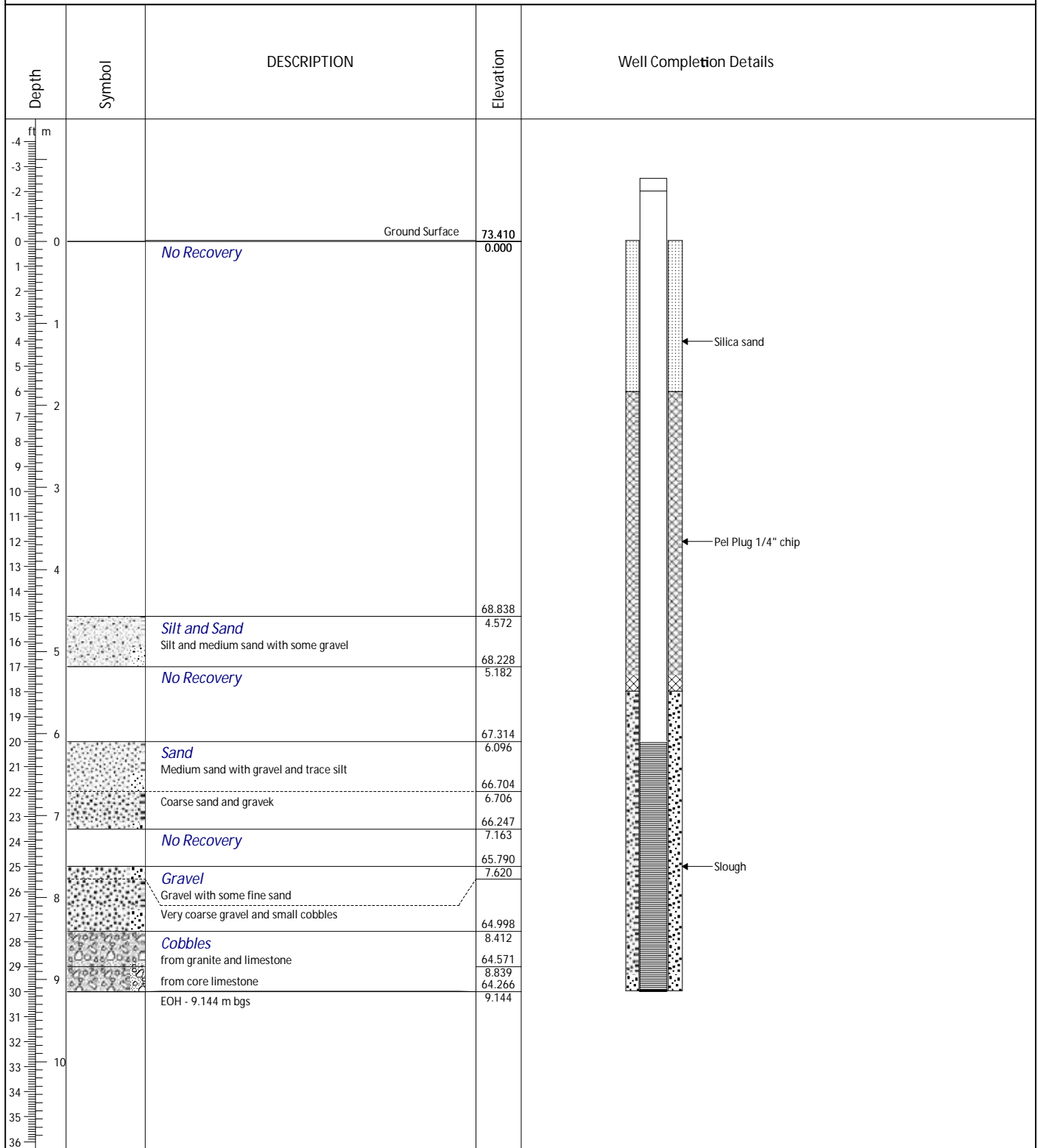
SITE: Cornwall Gravel - Macleod III & V Properties

CLIENT: Cornwall Gravel

LOGGED BY: TM

DRILLER: CCC

DATE DRILLED: 19-Oct-16



NOTES: Elevations in meters above sea level (m asl)

- Provided by Cornwall Gravel

EASTING:

NORTHING:

MAP DATUM:

ELEVATION - TOP OF PVC RISER:

REVIEWED BY:

TEMPLATE: MP - MW only

PROJECT No: CP-16-0280

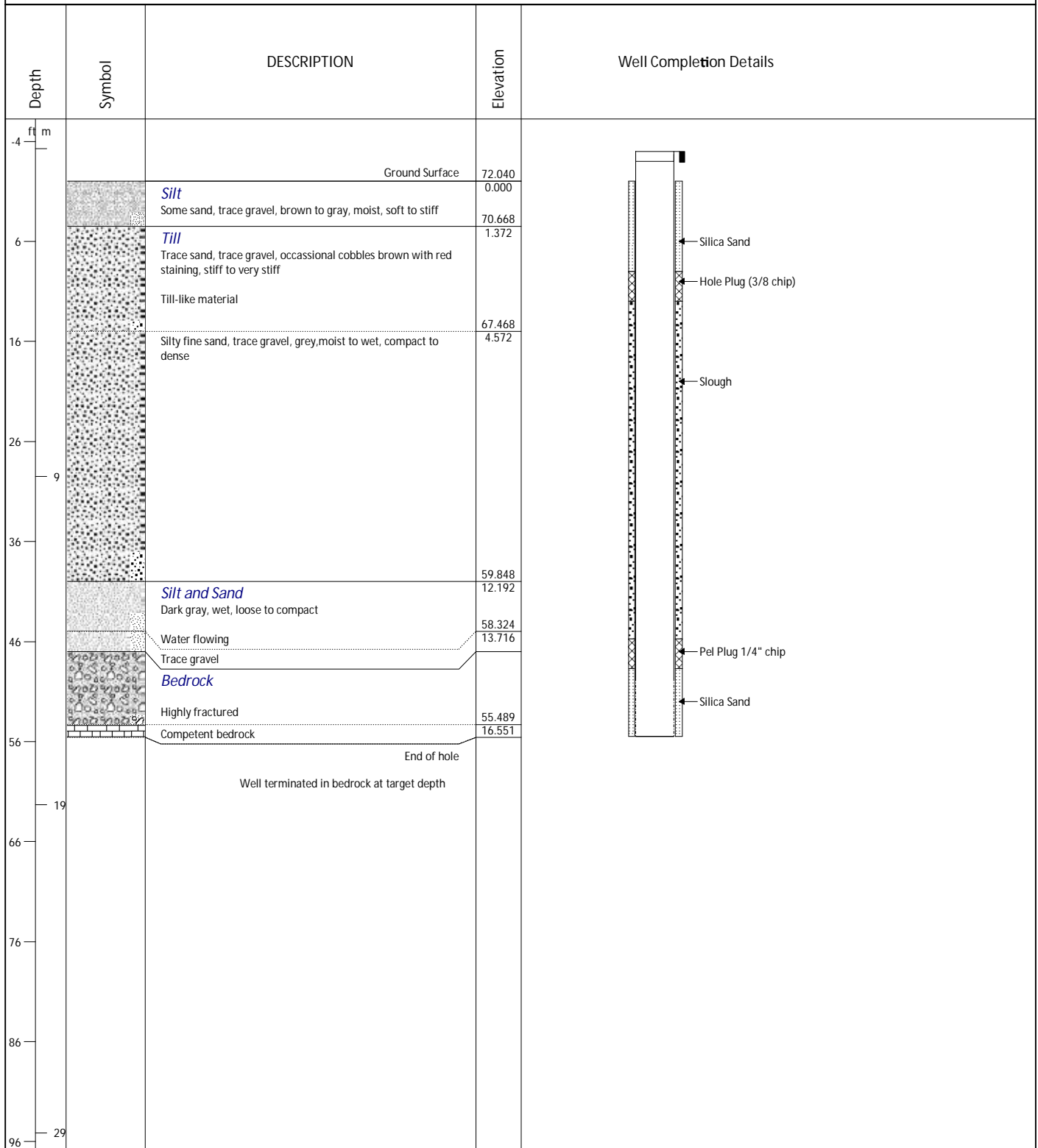
SITE: Cornwall Gravel - MacLeod III & V Properties

CLIENT: Cornwall Gravel

LOGGED BY: TM

DRILLER: CCC

DATE DRILLED: 18-Oct-16



NOTES: Elevations in meters above sea level (m asl)

-Provided by Cornwall Gravel

EASTING:

NORTHING:

MAP DATUM:

ELEVATION - TOP OF PVC RISER:

REVIEWED BY:

TEMPLATE: MP - MW only

PROJECT No: CP-16-0280

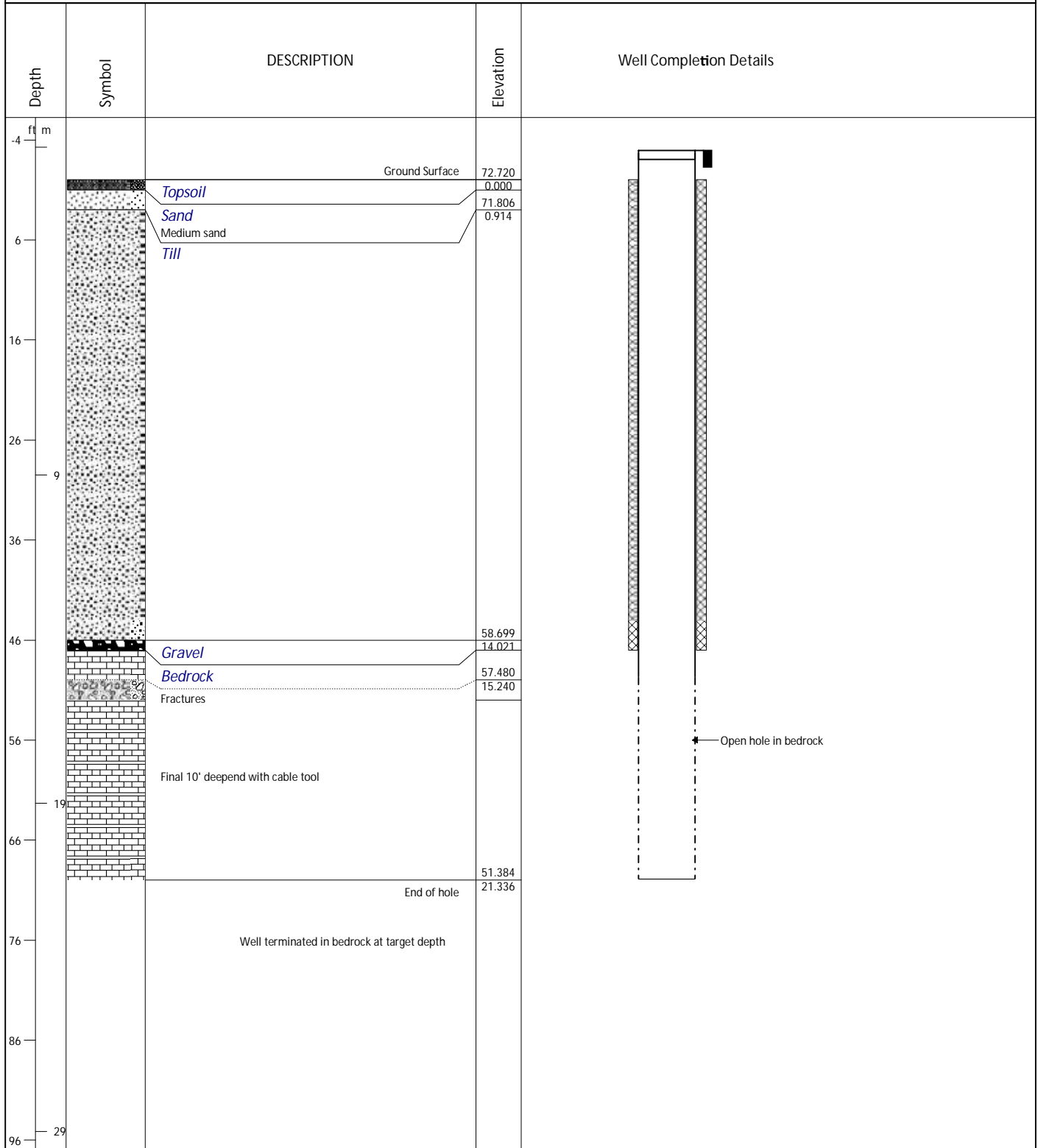
SITE: Cornwall Gravel - MacLeod III & V Properties

CLIENT: Cornwall Gravel

LOGGED BY: TM

DRILLER: Bourgeois Well Drilling

DATE DRILLED: 11-Oct-16



NOTES: Elevations in meters above sea level (m asl)
- Provided by Cornwall Gravel

EASTING:

ELEVATION - TOP OF PVC RISER:

NORTHING:

REVIEWED BY:

MAP DATUM:

TEMPLATE: MP - MW only

APPENDIX B

MOECC Well Records

1. PRINT ONLY IN SPACES PROVIDED 2. CHECK [X] CORRECT BOX WHERE APPLICABLE

11 2303086

MUNICIPALITY CON

COUNTY OR DISTRICT: CLEGGARD TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: CHARLOTTENBURY CON. BLOCK, TRACT, SURVEY ETC: Con 5 LOT: 25-27 #10 DATE COMPLETED: 8 MONTH: 20 YEAR: 86

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
BROWN	HARD PAN	AND BOULDERS	HAAL	0	35
GREY	HARD PAN			35	52
GREY	HARD PAN	AND BOULDERS		52	56
GREY	GRAVEL			56	58
GREY	LIMESTONE			58	65

31 32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
63	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
15-18	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
20-23	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
25-28	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
30-33	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
6 5/8	STEEL	1/8	0 58
6 5/8	STEEL		58 65

SCREEN

SIZE (S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
	31-33	34-38

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE
0 22	Almond gravel

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 PUMP 2 BAILER	20 GPM	1 15-18 HOURS 17-18 MINS

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW.

1 mile

WELL

01598

81 FINAL STATUS OF WELL

1 WATER SUPPLY	5 ABANDONED INSUFFICIENT SUPPLY
2 OBSERVATION WELL	6 ABANDONED POOR QUALITY
3 TEST HOLE	7 UNFINISHED
4 RECHARGE WELL	

CONTRACTOR

NAME OF WELL CONTRACTOR: GILLES BOURGEOIS LICENCE NUMBER: 1414

NAME OF DRILLER OR BORE: ST-ALBERT ONT

SIGNATURE OF CONTRACTOR: SERGE PAQUETTE LICENCE NUMBER: 0131

SUBMISSION DATE: DAY NO. YR.

OFFICE USE ONLY

DATE SOURCE: 58 CONTRACTOR: 59-62 DATE RECEIVED: 121186

DATE OF INSPECTION: INSPECTOR:

REMARKS:

CSS.ES

Measurements recorded in: ☒ Metric ☐ Imperial

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	<input type="checkbox"/> Well Constructed by Well Owner
Cornwall	Gravel Co. Ltd.	N/A	
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code
390 Eleventh St. W. Box 67	Cornwall	On.	K6H5R9

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
17615 Headline Road	Cornwall	7	5
County/District/Municipality	City/Town/Village	Province	Postal Code
	Cornwall	Ontario	K6H5R9

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	518963	4992713		

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
Brown	clay	Silt, Stone	Hard	0 5.1
Grey	clay	Silt, Stone	layered	5.1 12.4
Grey	gravel	Stone	packed	12.4 14.8
Grey	limestone		layered	14.8 24.3

Annular Space			
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)	
0 15.54	cement grout	0.5 m ³	

Method of Construction	Well Use
<input type="checkbox"/> Cable Tool <input type="checkbox"/> Rotary (Conventional) <input type="checkbox"/> Rotary (Reverse) <input type="checkbox"/> Boring <input type="checkbox"/> Air percussion <input checked="" type="checkbox"/> Other, specify Air Rotary	<input type="checkbox"/> Public <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Livestock <input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial <input type="checkbox"/> Other, specify
<input type="checkbox"/> Diamond <input type="checkbox"/> Jetting <input type="checkbox"/> Driving <input type="checkbox"/> Digging	<input type="checkbox"/> Commercial <input type="checkbox"/> Municipal <input type="checkbox"/> Test Hole <input type="checkbox"/> Cooling & Air Conditioning <input type="checkbox"/> Not used <input type="checkbox"/> Dewatering <input type="checkbox"/> Monitoring

Construction Record - Casing				Status of Well
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	
15.55	Steel	0.48	7.6 15.54	<input checked="" type="checkbox"/> Water Supply
15.55	Open Hole		15.54 24.3	<input type="checkbox"/> Replacement Well
				<input type="checkbox"/> Test Hole
				<input type="checkbox"/> Recharge Well
				<input type="checkbox"/> Dewatering Well
				<input type="checkbox"/> Observation and/or Monitoring Hole
				<input type="checkbox"/> Alteration (Construction)
				<input type="checkbox"/> Abandoned, Insufficient Supply
				<input type="checkbox"/> Abandoned, Poor Water Quality
				<input type="checkbox"/> Abandoned, other, specify
				<input type="checkbox"/> Other, specify

Construction Record - Screen				Status of Well
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From To	

Water Details		Hole Diameter	
Water found at Depth	Kind of Water: <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Untested	Depth (m/ft)	Diameter (cm/in)
23 (m/ft)	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify	From To	
Water found at Depth	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested	0 15.54 24.8	
(m/ft)	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify	15.54 24.3 15.55	
Water found at Depth	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested		
(m/ft)	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify		

Well Contractor and Well Technician Information			
Business Name of Well Contractor	Well Contractor's Licence No.		
Bougeois Well Drilling Ltd	7417		
Business Address (Street Number/Name)	Municipality		
151 Montee D'Aoust	Evation		
Province	Postal Code	Business E-mail Address	
On	K0A3C0	N/A	
Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)		
613 987 5291	GENIER, MICHAEL		
Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted	
3493		2012/12/17	

Results of Well Yield Testing

After test of well yield, water was:		Draw Down		Recovery	
<input checked="" type="checkbox"/> Clear and sand free		Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
<input type="checkbox"/> Other, specify					
If pumping discontinued, give reason:		Static Level	3.74		21.65
Pump intake set at (m/ft)		1	6.30	1	20.60
Pumping rate (l/min / GPM)		2	7.34	2	19.38
Duration of pumping		3	8.26	3	19.07
1 hrs + min		4	9.09	4	18.83
Final water level end of pumping (m/ft)		5	9.64	5	18.59
If flowing give rate (l/min / GPM)		10	14.10	10	16.56
21.65		15	15.50	15	14.50
Recommended pump depth (m/ft)		20	12.90	20	13.10
21		25	17.01	25	9.80
Recommended pump rate (l/min / GPM)		30	20.39	30	6.73
36		40	21.65	40	4.97
Well production (l/min / GPM)		50	21.65	50	3.90
Disinfected?		60	21.65	60	3.76
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					

Map of Well Location

Please provide a map below following instructions on the back.

10

Headline RD

400m

Comments: McConnall

Well owner's information package delivered	Date Package Delivered	Ministry Use Only
<input checked="" type="checkbox"/> Yes	2012/12/09	Audit No.
<input type="checkbox"/> No	2012/12/09	2160865
		Received JAN 04 2013

A 133878

Address of Well Location (Street Number/Name) 5537 County Rd. 42		Township Cornwall	Lot 6	Concession 4
County/District/Municipality Stormont		City/Town/Village Long Sault	Province Ontario	Postal Code K0C1P0
UTM Coordinates NAD 83	Zone 18	Easting 518713	Nothing 49921	Municipal Plan and Sublot Number 45

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From To
Brown	Silt	stone, Boulder	Hard	0 2.3
Grey	Silt	clay + Stone	Hard	2.3 12.8
Grey	gravel	Stone	packed	12.8 14.0
Grey	limestone		layered	14.0 24.3

Annular Space		
Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)
0 14.8	cement grout	0.4 m ³

Method of Construction	Well Use
<input type="checkbox"/> Cable Tool <input type="checkbox"/> Rotary (Conventional) <input type="checkbox"/> Rotary (Reverse) <input type="checkbox"/> Boring <input type="checkbox"/> Air percussion <input checked="" type="checkbox"/> Other, specify Air Rotary	<input type="checkbox"/> Public <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Municipal <input type="checkbox"/> Test Hole <input type="checkbox"/> Cooling & Air Conditioning <input type="checkbox"/> Not used <input type="checkbox"/> Dewatering <input type="checkbox"/> Monitoring <input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial <input type="checkbox"/> Other, specify

Construction Record - Casing			Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From To	
15.55	Steel	0.40	1.6 14.8	<input checked="" type="checkbox"/> Water Supply
15.55	Open Hole		14.8 24.3	<input type="checkbox"/> Replacement Well
				<input type="checkbox"/> Test Hole
				<input type="checkbox"/> Recharge Well
				<input type="checkbox"/> Dewatering Well
				<input type="checkbox"/> Observation and/or Monitoring Hole
				<input type="checkbox"/> Alteration (Construction)
				<input type="checkbox"/> Abandoned, Insufficient Supply
				<input type="checkbox"/> Abandoned, Poor Water Quality
				<input type="checkbox"/> Abandoned, other, specify
				<input type="checkbox"/> Other, specify

Construction Record - Screen			Status of Well	
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From To	

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Untested	Depth (m/ft) From To	Diameter (cm/in)
2.2 (m/ft)	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify	0 14.8	24.8
		14.8 24.3	15.55

Business Name of Well Contractor Four Seasons Well Drilling Ltd.		Well Contractor's Licence No. 74117
Business Address (Street Number/Name) 151 Montee Street		Municipality Nation
Province On	Postal Code K0A3C0	Business E-mail Address N/A
Bus. Telephone No. (inc. area code) 6139875291	Name of Well Technician (Last Name, First Name) GENIER, MICHAEL	
Well Technician's Licence No. 3493	Signature of Technician and/or Contractor <i>[Signature]</i>	Date Submitted 20121004

Results of Well Yield Testing			
After test of well yield, water was:		Draw Down	
<input checked="" type="checkbox"/> Clear and sand free		Time (min)	Water Level (m/ft)
<input type="checkbox"/> Other, specify		Static Level	
If pumping discontinued, give reason:		1	5.75
Pump intake set at (m/ft)		2	6.27
Pumping rate (l/min / GPM)		3	6.69
Duration of pumping		4	6.98
Final water level end of pumping (m/ft)		5	7.32
If flowing give rate (l/min / GPM)		10	8.10
Recommended pump depth (m/ft)		15	8.16
Recommended pump rate (l/min / GPM)		20	8.29
Well production (l/min / GPM)		25	8.43
Disinfected?		30	8.58
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		40	8.79
		50	8.8
		60	9.09

Map of Well Location

Please provide a map below following instructions on the back.

CR444

101

Well owner's information package delivered <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Date Package Delivered 20120928	Date Work Completed 20120928
Ministry Use Only		
Audit No. 2153302		
Approved [Signature]		

Address of Well Location (Street Number/Name) <u>North South Branch Rd.</u>		Township <u>Cornwall</u>	Lot <u>1</u>	Concession <u>4</u>
County/District/Municipality <u>South Glengarry</u>		City/Town/Village <u>Cornwall</u>	Province <u>Ontario</u>	Postal Code _____
UTM Coordinates NAD <u>83</u> <u>18521353</u> <u>4951768</u>	Zone <u>18</u>	Easting <u>521353</u>	Northings <u>4951768</u>	Municipal Plan and Sublot Number _____
Other _____			_____	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
Brown	clay	Silt, Stone	Hard	0	3.9
Grey	clay	Silt, Stone	Hard	3.9	6.7
Grey	Limestone		layered	6.7	25.9

Annular Space			
Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	6.7	Cement grout	2.2 m³

Method of Construction <input type="checkbox"/> Cable Tool <input type="checkbox"/> Diamond <input type="checkbox"/> Rotary (Conventional) <input type="checkbox"/> Jetting <input type="checkbox"/> Rotary (Reverse) <input type="checkbox"/> Driving <input type="checkbox"/> Boring <input type="checkbox"/> Digging <input type="checkbox"/> Air percussion <input checked="" type="checkbox"/> Other, specify <u>Air Rotary</u>		Well Use <input type="checkbox"/> Public <input type="checkbox"/> Commercial <input type="checkbox"/> Not used <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Municipal <input type="checkbox"/> Dewatering <input type="checkbox"/> Livestock <input type="checkbox"/> Test Hole <input type="checkbox"/> Monitoring <input type="checkbox"/> Irrigation <input type="checkbox"/> Cooling & Air Conditioning <input type="checkbox"/> Industrial <input type="checkbox"/> Other, specify _____	
---	--	---	--

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fiberglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To	
15.55	Steel	.48	4.6	6.7	<input checked="" type="checkbox"/> Water Supply
15.55	Open Hole		6.7	25.9	<input type="checkbox"/> Replacement Well
					<input type="checkbox"/> Test Hole
					<input type="checkbox"/> Recharge Well
					<input type="checkbox"/> Dewatering Well
					<input type="checkbox"/> Observation and/or Monitoring Hole
					<input type="checkbox"/> Alteration (Construction)
					<input type="checkbox"/> Abandoned, Insufficient Supply
					<input type="checkbox"/> Abandoned, Poor Water Quality
					<input type="checkbox"/> Abandoned, other, specify _____
					<input type="checkbox"/> Other, specify _____

Construction Record - Screen				
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To

☐ Insufficient Supply

☐ Abandoned, Poor Water Quality

☐ Abandoned, other, specify

☐ Other, specify

Water Details		Hole Diameter	
Water found at Depth <u>2.2 (m/ft)</u> <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Other, specify _____	Kind of Water: <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Untested	Depth (m/ft) From	To
Water found at Depth _____ (m/ft) <input type="checkbox"/> Gas <input type="checkbox"/> Other, specify _____	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested	0	6.7
Water found at Depth _____ (m/ft) <input type="checkbox"/> Gas <input type="checkbox"/> Other, specify _____	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested	6.7	25.9

Business Name of Well Contractor <u>Bourgeois Well Drilling Ltd</u>		Well Contractor's Licence No. <u>14117</u>
Business Address (Street Number/Name) <u>151 Montee D'Aoust</u>		Municipality <u>Nation</u>
Province <u>ON</u>	Postal Code <u>K0A3C0</u>	Business E-mail Address <u>N/A</u>
Bus. Telephone No. (inc. area code) <u>613 987 5291</u>		Name of Well Technician (Last Name, First Name) <u>GENIER, MICHAEL</u>
Well Technician's Licence No. <u>8493</u>	Signature of Technician and/or Contractor 	Date Submitted <u>20120828</u>

Results of Well Yield Testing					
After test of well yield, water was:		Draw Down		Recovery	
<input checked="" type="checkbox"/> Clear and sand free <input type="checkbox"/> Other, specify		Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:		Static Level	6.03		10.58
Pump intake set at (m/ft) 22		1	7.06	1	9.50
Pumping rate (l/min / GPM) 20		2	7.16	2	8.90
Duration of pumping 1 hrs + min		3	7.19	3	8.38
Final water level end of pumping (m/ft) 10.58		4	7.33	4	7.90
If flowing give rate (l/min / GPM)		5	7.50	5	7.50
Recommended pump depth (m/ft) 22		10	7.50	10	6.59
Recommended pump rate (l/min / GPM) 20		15	7.57	15	6.22
Well production (l/min / GPM)		20	8.23	20	6.13
Disinfected?		25	9.23	25	6.07
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		30	9.47	30	6.04
		40	9.83	40	6.04
		50	10.15	50	6.03
		60	10.58	60	6.03

Map of Well Location

Please provide a map below following instructions on the back.

Comments:

Well owner's information package delivered <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Date Package Delivered <u>20120821</u>	Ministry Use Only Audit No. <u>2153269</u> <u>SEP 10 2012</u>
Date Work Completed <u>20120821</u>		

Measurements recorded in: ☒ Metric ☐ Imperial

A113484

022 Page 2 of 3

Well Owner's Information

First Name [Redacted]	Last Name / Organization Harper Group	E-mail Address		<input type="checkbox"/> Well Constructed by Well Owner	
Mailing Address (Street Number/Name) 11 Diesel Drive	Municipality Texada	Province ON	Postal Code M8N 4Z1	Telephone No. (inc. area code)	

Well Location

Address of Well Location (Street Number/Name) 5560 McConnell Avenue				Township		Lot		Concession	
County/District/Municipality				City/Town/Village Cormwall				Province Ontario	
UTM Coordinates				Zone		Easting		Northing	
NAD 83				18S		186139992009		Municipal Plan and Sublot Number	
								Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

[illegible]

Annular Space

[illegible]

Method of Construction

<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Diamond
<input type="checkbox"/> Rotary (Conventional)	<input type="checkbox"/> Jetting
<input type="checkbox"/> Rotary (Reverse)	<input type="checkbox"/> Driving
<input type="checkbox"/> Boring	<input type="checkbox"/> Digging
<input type="checkbox"/> Air percussion	
<input type="checkbox"/> Other, <i>specify</i> _____	

Well Use

<input type="checkbox"/> Public	<input type="checkbox"/> Commercial	<input type="checkbox"/> Not used
<input type="checkbox"/> Domestic	<input type="checkbox"/> Municipal	<input type="checkbox"/> Dewatering
<input type="checkbox"/> Livestock	<input checked="" type="checkbox"/> Test Hole	<input checked="" type="checkbox"/> Monitoring
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Cooling & Air Conditioning	
<input type="checkbox"/> Industrial		
<input type="checkbox"/> Other, <i>specify</i> _____		

Construction Record - Casing

Inside Diameter (<i>in</i>)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (<i>in</i>)	Depth (m/ft)	
			From	To
4.03	PLATE	368	0	1.37

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☒ Abandoned, other, *specify Test Hole*
☐ Other, *specify*

Construction Record - Screen

Outside Diameter (<i>67</i> in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (<i>m</i> /ft)	
			From	To
<i>4.52</i>	<i>plastic</i>	<i>10</i>	<i>1.37</i>	<i>2.89</i>

Results of Well Yield Testing


After test of well yield, water was:	Draw Down		Recovery	
	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
<input type="checkbox"/> Clear and sand free <input type="checkbox"/> Other, <i>specify</i> _____	Static Level			
If pumping discontinued, give reason:	1		1	
Pump intake set at (m/ft)	2		2	
Pumping rate (l/min / GPM)	3		3	
Duration of pumping _____ hrs + _____ min	4		4	
Final water level end of pumping (m/ft)	5		5	
If flowing give rate (l/min / GPM)	10		10	
Recommended pump depth (m/ft)	15		15	
	20		20	
	25		25	
Recommended pump rate (l/min / GPM)	30		30	
	40		40	
Well production (l/min / GPM)	50		50	
Disinfected?	60		60	
<input type="checkbox"/> Yes <input type="checkbox"/> No				

Map of Well Location

Please provide a map below following instructions on the back.

Hand-drawn diagram of a building layout. A rectangular building is divided into two sections. The left section is labeled "6.5m" vertically and "22m" horizontally. A circled plus sign is in the bottom-left corner of this section. The right section is labeled "# 5560".

Well Contractor and Well Technician Information

Business Name of Well Contractor Ostrata Soil Sampling		Well Contractor's Licence No. 7241	
Business Address (Street Number/Name) 147-2 W. Beaver creek		Municipality Richmondhill	
Province ON	Postal Code L4B1C6	Business E-mail Address wrecords@ostratasoil.com	
Bus. Telephone No. (inc. area code) 9057649304	Name of Well Technician (Last Name, First Name) Beatty Brian		
Well Technician's Licence No. 3616	Signature of Technician And/or Contractor 		Date Submitted 2011/11/27

Well owner's information package delivered	Date Package Delivered	Ministry Use Only Audit No. z 134433 JAN 09 2012 Received _____
	Y Y Y Y M M D D Date Work Completed 2011-11-24	
<input type="checkbox"/> Yes <input type="checkbox"/> No		

Measurements recorded in: ☒ Metric ☐ Imperial

A 107806

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Well Owner's Information

First Name [REDACTED]	Last Name / Organization Harper Group	E-mail Address		<input type="checkbox"/> Well Constructed by Well Owner
Mailing Address (Street Number/Name) 11 Diesel Drive	Municipality Toronto	Province ON	Postal Code M8W 4Z1	Telephone No. (inc. area code) [REDACTED]

Well Location

Address of Well Location (Street Number/Name) 5560 McConnell Avenue				Township		Lot		Concession	
County/District/Municipality				City/Town/Village Cornwall				Province Ontario	
UTM Coordinates		Zone Easting		Northing		Municipal Plan and Sublot Number			
NAD 83		18S18654		4992016					
						Other			

Overburden and Bedrock Materials Abandonment Sealing Record (see instructions on the back of this form)

[illegible]

Annular Space

Depth Set at (m/ft)		Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
From	To		

Method of Construction

<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Diamond
<input type="checkbox"/> Rotary (Conventional)	<input type="checkbox"/> Jetting
<input type="checkbox"/> Rotary (Reverse)	<input type="checkbox"/> Driving
<input type="checkbox"/> Boring	<input type="checkbox"/> Digging
<input type="checkbox"/> Air percussion	
<input type="checkbox"/> Other, <i>specify</i> _____	

Well Use

<input type="checkbox"/> Public	<input type="checkbox"/> Commercial	<input type="checkbox"/> Not used
<input type="checkbox"/> Domestic	<input type="checkbox"/> Municipal	<input type="checkbox"/> Dewatering
<input type="checkbox"/> Livestock	<input checked="" type="checkbox"/> Test Hole	<input checked="" type="checkbox"/> Monitoring
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Cooling & Air Conditioning	
<input type="checkbox"/> Industrial		
<input type="checkbox"/> Other, <i>specify</i>		

Construction Record - Casing

Inside Diameter (mm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (mm/in)	Depth (m/ft)	
			From	To
4.03	plastic	-368	0	1.37

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☒ Abandoned, other, specify lost the well
☐ Other, specify

Construction Record - Screen

Outside Diameter (<i>in</i> / <i>mm</i>)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (<i>mm</i>)	
			From	To
4.82	plastic	10	1.37	4.42


Water Details

Water found at Depth (m/ft) <input type="checkbox"/> Gas	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Other, <i>specify</i> _____
Water found at Depth (m/ft) <input type="checkbox"/> Gas	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Other, <i>specify</i> _____
Water found at Depth (m/ft) <input type="checkbox"/> Gas	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Other, <i>specify</i> _____

Hole Diameter

Depth (m/f)		Diameter
From	To	(in)
0	4.42	4.82

Well Contractor and Well Technician Information

Business Name of Well Contractor strata soil sampling		Well Contractor's Licence No. 7 2 4 1	
Business Address (Street Number/Name) 147-2 W. Beaver creek		Municipality Richmond B.C.	
Province ON	Postal Code L4B 1L6	Business E-mail Address wrelo@strata soil.com	
Bus. Telephone No. (inc. area code) 905 764 9304	Name of Well Technician (Last Name, First Name) Beatty Brian		
Well Technician's Licence No. 3616	Signature of Technician and/or Contractor 		Date Submitted 2011/11/27

Results of Well Yield Testing

Results of Well Field Testing				
After test of well yield, water was: <input type="checkbox"/> Clear and sand free <input type="checkbox"/> Other, specify _____	Draw Down		Recovery	
	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:	Static Level			
	1		1	
	2		2	
	3		3	
	4		4	
	5		5	
	10		10	
	15		15	
	20		20	
	25		25	
	30		30	
	40		40	
If flowing give rate (l/min / GPM)	50		50	
	60		60	
Recommended pump depth (m/ft)				
Recommended pump rate (l/min / GPM)				
Well production (l/min / GPM)				
Disinfected? <input type="checkbox"/> Yes <input type="checkbox"/> No				

Map of Well Location

Please provide a map below following instructions on the back.

Comments:

Well owner's information package delivered	Date Package Delivered	Ministry Use Only
	Y Y Y Y M M D D Date Work Completed	
<input type="checkbox"/> Yes <input type="checkbox"/> No	2 0 1 1 1 1 2 1	Audit No. z134434 Received JAN 08 2012



A106105

Measurements recorded in: ☒ Metric ☐ Imperial

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Well Owner's Information

First Name	Last Name / Organization	E-mail Address	<input type="checkbox"/> Well Constructed by Well Owner
Cornwall Gravel Company Ltd.		N/A	
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code
P.O. Box 67- 390 Eleventh St. W.	Cornwall	ON	K6H5R9
Telephone No. (inc. area code)		9326571	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
South Branch	North Glengarry	4	4
County/District/Municipality	City/Town/Village	Province	Postal Code
North Glengarry	Cornwall	Ontario	K6H5R9
UTM Coordinates	Zone	Easting	Northing
NAD 83	18	520120	4991073
Municipal Plan and Sublot Number		Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
Brown	clay	silt	Hard	0 2.5
Grey	clay		Soft	2.5 4.8
Grey	limestone		layered	4.8 12.1

Annular Space			Results of Well Yield Testing			
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)	After test of well yield, water was:	Draw Down		Recovery
From	To		<input type="checkbox"/> Clear and sand free	Time (min)	Water Level (m/ft)	Time (min)
0	6	cement grout	<input type="checkbox"/> Other, specify	Static Level		Water Level (m/ft)
			If pumping discontinued, give reason:	1		1
			Pump intake set at (m/ft)	2		2
			Pumping rate (l/min / GPM)	3		3
			Duration of pumping	4		4
			hrs + min	5		5
			Final water level end of pumping (m/ft)	10		10
			If flowing give rate (l/min / GPM)	15		15
			Recommended pump depth (m/ft)	20		20
			Recommended pump rate (l/min / GPM)	25		25
			Well production (l/min / GPM)	30		30
			Disinfected?	40		40
			<input type="checkbox"/> Yes <input type="checkbox"/> No	50		50
				60		60

Method of Construction		Well Use		
<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Diamond	<input type="checkbox"/> Public	<input type="checkbox"/> Commercial	<input type="checkbox"/> Not used
<input type="checkbox"/> Rotary (Conventional)	<input type="checkbox"/> Jetting	<input type="checkbox"/> Domestic	<input type="checkbox"/> Municipal	<input type="checkbox"/> Dewatering
<input type="checkbox"/> Rotary (Reverse)	<input type="checkbox"/> Driving	<input type="checkbox"/> Livestock	<input checked="" type="checkbox"/> Test Hole	<input checked="" type="checkbox"/> Monitoring
<input type="checkbox"/> Boring	<input type="checkbox"/> Digging	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Cooling & Air Conditioning	
<input checked="" type="checkbox"/> Air Percussion		<input type="checkbox"/> Industrial		
<input checked="" type="checkbox"/> Other, specify	Air Rotary	<input type="checkbox"/> Other, specify		

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	From	To
15.55	Steel	.48	7.6		6
15.55	Open Hole		6		12.1

<input type="checkbox"/> Water Supply	<input type="checkbox"/> Replacement Well	<input type="checkbox"/> Test Hole	<input type="checkbox"/> Recharge Well	<input type="checkbox"/> Dewatering Well
<input checked="" type="checkbox"/> Observation and/or Monitoring Hole	<input type="checkbox"/> Alteration (Construction)	<input type="checkbox"/> Abandoned, Insufficient Supply	<input type="checkbox"/> Abandoned, Poor Water Quality	<input type="checkbox"/> Abandoned, other, specify
<input type="checkbox"/> Other, specify				

Construction Record - Screen				Status of Well	
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	From	To

<input type="checkbox"/> Water Supply	<input type="checkbox"/> Replacement Well	<input type="checkbox"/> Test Hole	<input type="checkbox"/> Recharge Well	<input type="checkbox"/> Dewatering Well
<input checked="" type="checkbox"/> Observation and/or Monitoring Hole	<input type="checkbox"/> Alteration (Construction)	<input type="checkbox"/> Abandoned, Insufficient Supply	<input type="checkbox"/> Abandoned, Poor Water Quality	<input type="checkbox"/> Abandoned, other, specify
<input type="checkbox"/> Other, specify				

Water Details		Hole Diameter	
Water found at Depth	Kind of Water: <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Untested	Depth (m/ft)	Diameter (cm/in)
7m (m/ft)	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify	From	To
		0	6 21.23
Water found at Depth	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested	6	12.1 15.55
(m/ft)	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify		
Water found at Depth	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested		
(m/ft)	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify		

Well Contractor and Well Technician Information			
Business Name of Well Contractor	Well Contractor's Licence No.		
Bourgeois Well Drilling Ltd.	74117		
Business Address (Street Number/Name)	Municipality		
151 Montee D'Aoust	Nation		
Province	Postal Code	Business E-mail Address	
ON	K0A3C0	N/A	
Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)		
6139875291	GENIER, MICHAEL		
Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted	
3493	[Signature]	20110610	

Well owner's information package delivered	Date Package Delivered	Ministry Use Only	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Y Y Y Y M M D D	Audit No.	z131557
	Date Work Completed		JUL 12 2011
			Received

Address of Well Location (Street Number/Name) 5560 McConnell Ave N.		Township	Lot	Concession
County/District/Municipality		City/Town/Village Cornwall	Province Ontario	Postal Code
UTM Coordinates NAD 83	Zone 18	Easting 518633	Northings 4992017	Municipal Plan and Sublot Number

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BRN	Topsoil		soft	0	.31
BRN	sand	stones	soft	.31	2.13
BRN	clay	stones	soft	2.13	4.57

Annular Space			Volume Placed (m³/ft³)
Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	
0	.31	concrete flushmount	
.31	1.22	holeplug	
1.22	4.57	filter sand	

Method of Construction		Well Use	
<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Diamond	<input type="checkbox"/> Public	<input type="checkbox"/> Commercial
<input type="checkbox"/> Rotary (Conventional)	<input type="checkbox"/> Jetting	<input type="checkbox"/> Domestic	<input type="checkbox"/> Not used
<input type="checkbox"/> Rotary (Reverse)	<input type="checkbox"/> Driving	<input type="checkbox"/> Livestock	<input type="checkbox"/> Municipal
<input type="checkbox"/> Boring	<input type="checkbox"/> Digging	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Test Hole
<input type="checkbox"/> Air percussion	<input type="checkbox"/> Other, specify	<input type="checkbox"/> Industrial	<input type="checkbox"/> Cooling & Air Conditioning
<input checked="" type="checkbox"/> Direct Push		<input type="checkbox"/> Other, specify	

Construction Record - Casing			Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
4.03	PVC	.368	0	1.52

Construction Record - Screen			Status of Well	
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.82	PVC	10	1.52	4.57

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Gas <input type="checkbox"/> Other, specify	Depth (m/ft) From	Diameter (cm/in) To
0		0	4.57
4.57			8.25

Business Name of Well Contractor Strata Soil Sampling		Well Contractor's Licence No. 72411
Business Address (Street Number/Name) 147-2 West Beaver Creek Rd Richmond Hill		Municipality
Province Ontario	Postal Code L4B1C6	Business E-mail Address wrecords@stratasoil.com
Bus. Telephone No. (inc. area code) 9057649304		Name of Well Technician (Last Name, First Name) Beatty Brian
Well Technician's Licence No. 3616	Signature of Technician and/or Contractor [Signature]	
Date Submitted 20110425		

Results of Well Yield Testing			
After test of well yield, water was:		Draw Down	
<input type="checkbox"/> Clear and sand free	<input type="checkbox"/> Other, specify	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:		Static Level	
Pump intake set at (m/ft)		1	1
Pumping rate (l/min / GPM)		2	2
Duration of pumping hrs + min		3	3
Final water level end of pumping (m/ft)		4	4
If flowing give rate (l/min / GPM)		5	5
Recommended pump depth (m/ft)		10	10
Recommended pump rate (l/min / GPM)		15	15
Well production (l/min / GPM)		20	20
Disinfected? <input type="checkbox"/> Yes <input type="checkbox"/> No		25	25
		30	30
		40	40
		50	50
		60	60

Map of Well Location	
Please provide a map below following instructions on the back.	
Comments:	
Well owner's information package delivered <input type="checkbox"/> Yes <input type="checkbox"/> No	Date Package Delivered Y Y Y Y M M D D 20110419
Date Work Completed 20110419	Ministry Use Only
	Audit No. z113209
	JUN 02 2011
	Received

Measurements recorded in: ☒ Metric ☐ Imperial

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A 071296

Address of Well Location (Street Number/Name) 4885 Delaney Rd				Township South Stormont		Lot Part of lot 2		Concession 6	
County/District/Municipality Stormont				City/Town/Village Marten Town		Province Ontario		Postal Code K0C 1S0	
UTM Coordinates NAD 83		Zone 18S		Easting 185185		Northing 234992556		Municipal Plan and Sublot Number	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
Brown	Clay	Silt, Boulder	Hard	0	4.3
Grey	Silt	clay, Boulder	Hard	4.3	12.5
Grey	gravel	Boulder	Packed	12.5	14.3
Grey	limestone		Layered	14.3	23.7

Annular Space			
Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)
0	6	Cement grout	4 Bag

Method of Construction		Well Use		
<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Diamond	<input checked="" type="checkbox"/> Public	<input type="checkbox"/> Commercial	<input type="checkbox"/> Not used
<input checked="" type="checkbox"/> Rotary (Conventional)	<input type="checkbox"/> Jetting	<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Municipal	<input type="checkbox"/> Dewatering
<input type="checkbox"/> Rotary (Reverse)	<input type="checkbox"/> Driving	<input type="checkbox"/> Livestock	<input type="checkbox"/> Test Hole	<input type="checkbox"/> Monitoring
<input type="checkbox"/> Boring	<input type="checkbox"/> Digging	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Cooling & Air Conditioning	
<input type="checkbox"/> Air percussion		<input type="checkbox"/> Industrial		
<input type="checkbox"/> Other, specify		<input type="checkbox"/> Other, specify		

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To	
15.55	Steel	0.48	0.6	14.3	<input checked="" type="checkbox"/> Water Supply
15.55	Open Hole		14.3	23.7	<input type="checkbox"/> Replacement Well
					<input type="checkbox"/> Test Hole
					<input type="checkbox"/> Recharge Well
					<input type="checkbox"/> Dewatering Well
					<input type="checkbox"/> Observation and/or Monitoring Hole
					<input type="checkbox"/> Alteration (Construction)
					<input type="checkbox"/> Abandoned, Insufficient Supply
					<input type="checkbox"/> Abandoned, Poor Water Quality
					<input type="checkbox"/> Abandoned, other, specify
					<input type="checkbox"/> Other, specify

Construction Record - Screen				
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To

☐ Insufficient Supply

☐ Abandoned, Poor Water Quality

☐ Abandoned, other, specify

☐ Other, specify

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: <input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Gas <input type="checkbox"/> Other, specify	Depth (m/ft) From	To
15		0	6
		6	23.7

Business Name of Well Contractor Bourgeois well Drilling		Well Contractor's Licence No. 1414	
Business Address (Street Number/Name) 1182 900 East		Municipality M.T.ion	
Province Ontario	Postal Code K0A3C0	Business E-mail Address	
Bus. Telephone No. (inc. area code) 613 987 5291		Name of Well Technician (Last Name, First Name) Michael Genier	
Well Technician's Licence No. 3493		Date Submitted 20080924	

Results of Well Yield Testing					
After test of well yield, water was: <input checked="" type="checkbox"/> Clear and sand free <input type="checkbox"/> Other, specify		Draw Down		Recovery	
		Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:		Static Level	4.10		11.32
		1		1	
Pump intake set at (m/ft) 6.0		2		2	
Pumping rate (l/min / GPM) 20		3		3	
Duration of pumping 1 hrs + 0 min		4	6.90	4	
Final water level end of pumping (m/ft) 11.32		5	7.26	5	
If flowing give rate (l/min / GPM)		10	8.80	10	
		15	10.26	15	
Recommended pump depth (m/ft) 6.0		20	10.39	20	
Recommended pump rate (l/min / GPM) 20		25	10.48	25	
Well production (l/min / GPM)		30	10.60	30	
		40	10.81	40	
Disinfected?		50	11.17	50	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		60	11.32	60	

Map of Well Location

Please provide a map below following instructions on the back.

Comments:		Well owner's information package delivered <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Date Package Delivered Y/Y/Y/M/M/D/D 20080924		Date Work Completed 20080924		Ministry Use Only Audit No. Z 90494 Received OCT 2 2008	
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A 057435

A 057435

Regulation 903 Ontario Water Resources Act

Page of

First Name CORNWALL	Last Name GAREL COMPTON	E-mail Address NA	<input type="checkbox"/> Well Constructed by Well Owner	
Mailing Address (Street Number/Name, RR) P.O. Box 67 390 Elmwood St W		Municipality CORNWALL	Province ON	Postal Code K6H5R7
		Telephone No. (inc. area code) 613 952 6571		

Address of Well Location (Street Number/Name, RR)				Township		Lot		Concession			
South Branch				South Stormont		4		4			
County/District/Municipality				City/Town/Village			Province		Postal Code		
Stormont				Cornwall			Ontario		K6H5A9		
UTM Coordinates		Zone		Easting		Northing		GPS Unit Make		Model	
NAD 83		18S		20527499		190347m		Trimble		Trimble	
Mode of Operation:								<input type="checkbox"/> Undifferentiated		<input checked="" type="checkbox"/> Averaged	
<input type="checkbox"/> Differentiated, specify _____											

[illegible]

Depth Set at (Metres)		Type of Sealant Used (Material and Type)	Volume Placed (Cubic Metres)
From	To		
0	9.7	ciment grout	

Check box if after test of well yield, water was:	Draw Down		Recovery	
	Time (Min)	Water Level (Metres)	Time (Min)	Water Level (Metres)
<input type="checkbox"/> Clear and sand free <input type="checkbox"/> Cannot develop to sand-free state	Static Level		Static Level	
If pumping discontinued, give reason:	1		1	
Pumping test method	2		2	
Pump intake set at (Metres)	3		3	
	4		4	
Pumping rate (Litres/min)	5		5	
Duration of pumping	10		10	
hrs + min	15		15	
Final water level end of pumping (Metres)	20		20	
Recommended pump type	25		25	
<input type="checkbox"/> Shallow <input type="checkbox"/> Deep	30		30	
Recommended pump depth	40		40	
Metres	50		50	
Recommended pump rate (Litres/min)	60		60	
If flowing give rate (Litres/min)				

<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Diamond	<input type="checkbox"/> Public	<input type="checkbox"/> Commercial	<input type="checkbox"/> Not used
<input type="checkbox"/> Rotary (Conventional)	<input type="checkbox"/> Jetting	<input type="checkbox"/> Domestic	<input type="checkbox"/> Municipal	<input type="checkbox"/> Dewatering
<input type="checkbox"/> Rotary (Reverse)	<input type="checkbox"/> Driving	<input type="checkbox"/> Livestock	<input checked="" type="checkbox"/> Test Hole	<input type="checkbox"/> Monitoring
<input checked="" type="checkbox"/> Rotary (Air)	<input type="checkbox"/> Digging	<input type="checkbox"/> Irrigation	<input type="checkbox"/> Cooling & Air Conditioning	
<input type="checkbox"/> Air percussion	<input type="checkbox"/> Boring	<input type="checkbox"/> Industrial		
<input type="checkbox"/> Other, specify _____		<input type="checkbox"/> Other, specify _____		

<input checked="" type="checkbox"/> Water Supply	<input type="checkbox"/> Dewatering Well	<input type="checkbox"/> Observation and/or Monitoring Hole
<input type="checkbox"/> Replacement Well	<input type="checkbox"/> Abandoned, Insufficient Supply	<input type="checkbox"/> Alteration (Construction)
<input checked="" type="checkbox"/> Test Hole	<input type="checkbox"/> Abandoned, Poor Water Quality	<input type="checkbox"/> Other, specify _____
<input type="checkbox"/> Recharge Well	<input type="checkbox"/> Abandoned, other, specify _____	

Please provide a map below showing:

- all property boundaries, and measurements sufficient to locate the well in relation to fixed points,
- an arrow indicating the North direction
- detailed drawings can be provided as attachments no larger than legal size (8.5" by 14")
- digital pictures of inside of well can also be provided

10 ↑
 2 well
 1 well
 1000
 1

Water found at Depth	Kind of Water
<input type="text"/> Metres <input type="checkbox"/> Gas	<input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals
Water found at Depth	Kind of Water
<input type="text"/> Metres <input type="checkbox"/> Gas	<input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals
Water found at Depth	Kind of Water
<input type="text"/> Metres <input type="checkbox"/> Gas	<input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals

<input type="checkbox"/> Galvanized	<input type="checkbox"/> Galvanized	Diameter of the Hole (Centimetres)
<input checked="" type="checkbox"/> Steel	<input type="checkbox"/> Steel	15.55
<input type="checkbox"/> Fibreglass	<input type="checkbox"/> Fibreglass	Depth of the Hole (Metres)
<input type="checkbox"/> Plastic	<input type="checkbox"/> Plastic	79.24
<input type="checkbox"/> Concrete	<input type="checkbox"/> Concrete	Wall Thickness (Metres)

<input checked="" type="checkbox"/> Open Hole	Inside Diameter of the Casing (Metres) 15.55
Disinfected? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth of the Casing (Metres) 9.7

Audit No. z 79819	Well Contractor No.
Date Received (yyyy/mm/dd) MAY 23 2008	Date of Inspection (yyyy/mm/dd)
Remarks	

Date Well Completed (yyyy/mm/dd) 2008/05/15	Was the well owner's information package delivered? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Date the Well Record and Package Delivered to Well Owner (yyyy/mm/dd)
---	---	--

Business Name of Well Contractor Bourgeois well Drilling		Well Contractor's Licence No. 1414	
Business Address (Street No./Name, number, RR) 1182 900 East		Municipality Nation	
Province Ontario	Postal Code K0A3C0	Business E-mail Address NA	
Bus. Telephone No. (inc. area code) 6139875291		Name of Well Technician (Last Name, First Name) Michaël Genier	
Well Technician's Licence No. 3493	Signature of Technician <i>[Signature]</i>	Date Submitted (yyyy/mm/dd) 2008/05/15	

0506E (11/2006)

Ministry's Copy

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- Please print clearly in blue or black ink only.

Well Owner's Information and Location of Well Information

MUN				CON				LOT			
RR#/Street Number/Name South Stormont 14840 Headline Rd											
City/Town/Village South Stormont											
Site/Compartment/Block/Tract etc. 5 4											
GPS Reading 8.3 1.8 5.20296 E 49.93290											
Unit Make/Model Moogellan 4x4											
Mode of Operation: <input type="checkbox"/> Undifferentiated <input checked="" type="checkbox"/> Averaged <input type="checkbox"/> Differentiated, specify											

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Metres To
Brown	clay		Hard	0	3.40
grey	clay		Hard	3.40	10.36
grey	limestone		layered	10.36	23.77

Hole Diameter Depth Metres From To Diameter Centimetres 0 10.36 2123 10.36 23.77 1555			Construction Record Inside diam centimetres Material Wall thickness centimetres Depth From To Metres 1555 Steel 0.48 1060 1036				Test of Well Yield Pumping test method Draw Down Recovery P.H.P. Sub Time min Water Level Metres Time min Water Level Metres Pump intake set at - (metres) 20 Static Level 3.90 14.05 Pumping rate - (litres/min) 18 1 1 Duration of pumping 2 2 1 hrs + 0 min Final water level end of pumping 3 3 14.05 metres Recommended pump type 4 5.85 4 <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep Recommended pump depth. 20 metres 5 7.00 5 12.90 Recommended pump rate. 20 (litres/min) 10 8.00 10 12.05 15 9.30 15 11.90 If flowing give rate - 20 10.16 20 11.50 (litres/min) 25 10.82 25 10.75 If pumping discontinued, give reason. 30 11.56 30 10.25 40 12.33 40 9.89 50 12.34 50 9.69 60 14.05 60 9.49			
Water Record Water found at Metres / Kind of Water 23 m Fresh <input type="checkbox"/> Sulphur <input type="checkbox"/> Gas <input type="checkbox"/> Salty <input type="checkbox"/> Minerals <input type="checkbox"/> Other: 1 m Fresh <input type="checkbox"/> Sulphur <input type="checkbox"/> Gas <input type="checkbox"/> Salty <input type="checkbox"/> Minerals <input type="checkbox"/> Other: After test of well yield, water was <input type="checkbox"/> Clear and sediment free <input type="checkbox"/> Other, specify Chlorinated <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Screen Outside diam <input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized Slot No. No Casing or Screen <input checked="" type="checkbox"/> Open hole 1036 23.77							

Plugging and Sealing Record <input checked="" type="checkbox"/> Annular space <input type="checkbox"/> Abandonment Depth set at - Metres From To Material and type (bentonite slurry, neat cement slurry) etc. Volume Placed (cubic metres) 0 10.00 cement slurry 5 bags		
---	--	--

Method of Construction <input type="checkbox"/> Cable Tool <input checked="" type="checkbox"/> Rotary (air) <input type="checkbox"/> Diamond <input type="checkbox"/> Digging <input type="checkbox"/> Rotary (conventional) <input type="checkbox"/> Air percussion <input type="checkbox"/> Jetting <input type="checkbox"/> Other <input type="checkbox"/> Rotary (reverse) <input type="checkbox"/> Boring <input type="checkbox"/> Driving			
Water Use <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Industrial <input type="checkbox"/> Public Supply <input type="checkbox"/> Other <input type="checkbox"/> Stock <input type="checkbox"/> Commercial <input type="checkbox"/> Not used <input type="checkbox"/> Irrigation <input type="checkbox"/> Municipal <input type="checkbox"/> Cooling & air conditioning			
Final Status of Well <input checked="" type="checkbox"/> Water Supply <input type="checkbox"/> Recharge well <input type="checkbox"/> Unfinished <input type="checkbox"/> Abandoned, (Other) <input type="checkbox"/> Observation well <input type="checkbox"/> Abandoned, insufficient supply <input type="checkbox"/> Dewatering <input type="checkbox"/> Test Hole <input type="checkbox"/> Abandoned, poor quality <input type="checkbox"/> Replacement well			

Well Contractor/Technician Information Name of Well Contractor Gilles Bou Rgeois Business Address (street name, number, city etc.) 57 St 1590 ont Name of Well Technician (last name, first name) S. H. one Signature of Technician/Contractor x Bille/Bou Rgeois Well Contractor's Licence No. 1414 Well Technician's Licence No. 0-198 Date Submitted 06 07/06	
---	--

Location of Well In diagram below show distances of well from road, lot line, and building. Indicate north by arrow. north Headline Rd 0 west 15 m 0 well #			
Audit No. 2 43184		Date Well Completed 06 07 06	
Was the well owner's information package delivered? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Date Delivered 06 07 06	

Ministry Use Only Data Source Contractor 1414 Date Received AUG 23 2006 Date of Inspection 06 07 06 Remarks Well Record Number			
---	--	--	--

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- All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

page ___ of ___

Well Owner's Information and Location of Well Information

Ministry Use Only									
MUN								CON	LOT

RR#/Street Number/Name: **Stapton 50 with B Randi** City/Town/Village: **South Stormont** Site/Compartment/Block/Tract etc.: **4 4**

Head lined **CORN wall**

GPS Reading: **8.3** NAD: **18** Zone: **519456 E** Northing: **4992650** Unit Make/Model: **Magellan** Mode of Operation: ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Metres To
Brown	fill		Hard	0	3.90
grey	fill		Hard	3.90	12.80
grey	gravel		Packbed	12.80	14.02
grey	limestone		layered	14.02	30.48

Hole Diameter			Construction Record				Test of Well Yield				
Depth From	Metres To	Diameter Centimetres	Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Metres To	Pumping test method	Draw Down	Recovery	
0	14.02	2123						Pump intake set at - (metres) 27	Time min	Water Level Metres	
14.02	30.48	555						Pumping rate - (litres/min) 40	Static Level	Time min	
			Casing						1	5.40	1
			<input checked="" type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized						2	6.46	2
			<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized						3	6.85	3
			<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized						4	7.0	4
			<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized						5	7.15	5
			Screen						10	7.57	10
			<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized						15	7.95	15
			No Casing or Screen						20	8.22	20
			<input checked="" type="checkbox"/> Open hole						25	8.40	25
									30	8.53	30
									40	8.67	40
									50	8.60	50
									60	8.60	60

Plugging and Sealing Record ☒ Annular space ☐ Abandonment

Depth set at - Metres: **0** To: **12** Material and type (bentonite slurry, neat cement slurry) etc.: **Cement Slurry** Volume Placed (cubic metres): **6 bags**

Method of Construction

☐ Cable Tool ☒ Rotary (air) ☐ Diamond ☐ Digging

☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☐ Other

☐ Rotary (reverse) ☐ Boring ☐ Driving

Water Use

☒ Domestic ☒ Industrial ☐ Public Supply ☐ Other

☐ Stock ☐ Commercial ☐ Not used

☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☒ Water Supply ☐ Recharge well ☐ Unfinished ☐ Abandoned, (Other)

☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering

☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Well Contractor/Technician Information

Name of Well Contractor: **Gilles Bourgeois** Well Contractor's Licence No.: **1414**

Business Address (street name, number, city, etc.): **5416 St. John**

Name of Well Technician (last name, first name): **Same** Well Technician's Licence No.: **0-193**

Signature of Technician/Contractor: **[Signature]** Date Submitted: **06 06 09**

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.

Headline Rd East

CORN wall

Gravel

Quarry

150m

100m

Audit No.: **z 43156** Date Well Completed: **06 06 09**

Was the well owner's information package delivered? ☐ Yes ☒ No Date Delivered: **06 06 09**

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Data Source: **1414** Contractor: **1414**

Date Received: **JUN 23 2006** Date of Inspection: **06 06 09**

Remarks: Well Record Number:

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- Please print clearly in blue or black ink only.

page ____ of ____

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Well Owner's Information (Name, Address, etc.)

Address of Well Location (County/District/Municipality) **Storvone** Township **South Storvone** Lot **4** Concession **4**
RR#/Street Number/Name **South Branch Rd** City/Town/Village **Corrwall** Site/Compartment/Block/Tract etc. **Magellan**
GPS Reading NAD **83** Zone **18** Easting **520127E** Northing **4991071** Unit Make/Model **Magellan** Mode of Operation: ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify _____

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Metres To
Brown	fill		Hard	0	3.9
Grey	fill		Hard	3.9	5.48
Grey	limestone		layered	5.48	9.44

Hole Diameter			Construction Record				Test of Well Yield					
Depth From	Metres To	Diameter Centimetres	Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Metres To	Pumping test method	Draw Down Time min	Water Level Metres	Recovery Time min	Water Level Metres
0	7.3	2123						Pump intake set at - (metres)	Static Level			
7.3	91.44	1555						Pumping rate - (litres/min)	1		1	
			Casing <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized 0.48 x 0.60 7.3				Duration of pumping _____ hrs + _____ min Final water level end of pumping _____ metres Recommended pump type <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep Recommended pump depth _____ metres Recommended pump rate (litres/min) _____ If flowing give rate - (litres/min) _____ If pumping discontinued, give reason. _____					
			Screen Outside diam <input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized Slot No. _____									
			No Casing or Screen <input checked="" type="checkbox"/> Open hole 7.3 91.44									

Plugging and Sealing Record ☒ Annular space ☐ Abandonment

Depth set at - Metres From	Metres To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	7.3	Cement Slurry	4 bags

Method of Construction

☐ Cable Tool ☒ Rotary (air) ☐ Diamond ☐ Digging
☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☐ Other
☐ Rotary (reverse) ☐ Boring ☐ Driving

Water Use

☐ Domestic ☒ Industrial ☐ Public Supply ☐ Other
☐ Stock ☐ Commercial ☐ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☒ Water Supply ☐ Recharge well ☐ Unfinished ☐ Abandoned, (Other)
☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering
☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Well Contractor/Technician Information

Name of Well Contractor **Gilles B. Dargatzis** Well Contractor's Licence No. **1414**
 Business Address (street name, number, city etc.) **St A. Bourne**
 Name of Well Technician (last name, first name) **St A. Bourne** Well Technician's Licence No. **0793**
 Signature of Technician/Contractor **St A. Bourne** Date Submitted **06/06/05**

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.

M-C-6

Audit No. **2 43150** Date Well Completed **06/06/05**
 Was the well owner's information package delivered? ☒ Yes ☐ No Date Delivered **06/06/05**

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Data Source **1414** Contractor **1414**
 Date Received **JUN 23 2006** Date of Inspection **06/06/05**
 Remarks _____ Well Record Number _____

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Well Owner's Information and Location of Well Information

[illegible]

RR#/Street Number/Name 5555 m c conell				City/Town/Village Cornwall		Site/Compartment/Block/Tract etc Plan 52R-5404	
GPS Reading		NAD 83	Zone 19	Easting 5187065	Northings 4993075	Unit Make/Model Masella	Mode of Operation: <input type="checkbox"/> Undifferentiated <input checked="" type="checkbox"/> Averaged <input type="checkbox"/> Differentiated, specify _____

Log of Overburden and Bedrock Materials (see instructions)

Log of Overburden and Bedrock Materials					
General Colour	Most common material	Other Materials	General Description	Depth From	Metres To
brown	silt		Hard	0	2.13
grey	silt		Hard	2.13	12.19
greenish grey	gravel		Packed,	12.19	12.80
grey	limestone		layered	12.80	2072

[illegible]

Depth set at - Metres		Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
From	To		
0	12	cement Grout	4.6 bag

Method of Construction			
<input type="checkbox"/> Cable Tool	<input checked="" type="checkbox"/> Rotary (air)	<input type="checkbox"/> Diamond	<input type="checkbox"/> Digging
<input type="checkbox"/> Rotary (conventional)	<input type="checkbox"/> Air percussion	<input type="checkbox"/> Jetting	<input type="checkbox"/> Other
<input type="checkbox"/> Rotary (reverse)	<input type="checkbox"/> Boring	<input type="checkbox"/> Driving	

Water Use			
<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Industrial	<input type="checkbox"/> Public Supply	<input type="checkbox"/> Other
<input type="checkbox"/> Stock	<input type="checkbox"/> Commercial	<input type="checkbox"/> Not used	
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Municipal	<input type="checkbox"/> Cooling & air conditioning	

Final Status of Well			
<input checked="" type="checkbox"/> Water Supply	<input type="checkbox"/> Recharge well	<input type="checkbox"/> Unfinished	<input type="checkbox"/> Abandoned, (Other) _____
<input type="checkbox"/> Observation well	<input type="checkbox"/> Abandoned, insufficient supply	<input type="checkbox"/> Dewatering	
<input type="checkbox"/> Test Hole	<input type="checkbox"/> Abandoned, poor quality	<input type="checkbox"/> Replacement well	

Well Contractor/Technician Information			
Name of Well Contractor <i>Gilles Bourgeois</i>		Well Contractor's Licence No. <i>1414</i>	
Business Address (street name, number, city etc.) <i>57416 Ave. Saint-Jacques</i>			
Name of Well Technician (last name, first name) <i>Alain Bourgeois</i>		Well Technician's Licence No. <i>2710</i>	
Signature of Technician/Contractor <i>Alain Bourgeois</i>		Date Submitted <i>5-20-00</i>	
		MM	DD
		<i>5</i>	<i>20</i>

Location of Well

In diagram below show distances of well from road, lot line, and building.
Indicate north by arrow.

Headline Rd

McCormick

and

Audit No. 2 21778	Date Well Completed 05/05/20
Was the well owner's information package delivered? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Date Delivered YYYY MM DD

Ministry Use Only			
Data Source	Contractor 1414		
Date Received <small>YYYY MM DD</small> JUN 24 2005	Date of Inspection <small>YYYY MM DD</small>		
Remarks	Well Record Number		

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Well Owner's Information and Location of Well Information

MUN 58001 CON COW 04 LOT 6

Stormont Cornwall 64
RR# Street Number/Name 5535 McConnell Ave City/Town/Village Cornwall Site/Compartment/Block/Tract etc.
GPS Reading NAD Zone Easting Northing Unit Make/Model Mode of Operation: ☐ Undifferentiated ☒ Averaged
8.3 18 518681 4992229 Garmin ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Metres To
Brown	Fill	Boulders	Loose	0	2.1
Brown	Till	Stones	Packed	2.1	6.8
Grey	Till	Gravel	Packed	6.8	15.6
Grey	Limestone		Layered	15.6	24.0

Hole Diameter			Construction Record				Test of Well Yield			
Depth From	Metres To	Diameter Centimetres	Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Metres To	Pumping test method	Draw Down	Recovery
0	24.0	15.2	15.2	<input checked="" type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized	0.48	0	15.6	Submersible	Time min Water Level Metres	Time min Water Level Metres
								Pump intake set at - (metres) 1.5	Static Level 1.6	
								Pumping rate - (litres/min) 40	1 3.4	1 4.5
								Duration of pumping 1 hrs + 00 min	2 4.2	2 3.4
								Final water level end of pumping 5.6 metres	3 4.6	3 3.0
								Recommended pump type. <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep	4 5.0	4 2.6
								Recommended pump depth. 15 metres	5 5.2	5 2.5
								Recommended pump rate. 80 (litres/min)	10 5.3	10 2.4
								If flowing give rate - (litres/min)	15 5.4	15 2.2
									20 5.3	20 2.1
									25 5.3	25 2.0
								If pumping discontinued, give reason.	30 5.5	30 1.9
									40 5.4	40 1.8
									50 5.6	50 1.7
									60 5.6	60 1.6

Plugging and Sealing Record ☒ Annular space ☐ Abandonment

Depth set at - Metres From To Material and type (bentonite slurry, neat cement slurry) etc. Volume Placed (cubic metres)

0 15.6 Clay Bentonite 0.8 m³

Method of Construction

☐ Cable Tool ☒ Rotary (air) ☐ Diamond ☐ Digging

☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☐ Other

☐ Rotary (reverse) ☐ Boring ☐ Driving

Water Use

☒ Domestic ☐ Industrial ☐ Public Supply ☐ Other

☐ Stock ☐ Commercial ☐ Not used

☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☒ Water Supply ☐ Recharge well ☐ Unfinished ☐ Abandoned, (Other)

☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering

☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Well Contractor/Technician Information

Name of Well Contractor Business Address (street name, number, city etc.)

Rox's LBR Ltd Cornwall

Name of Well Technician (last name, first name) Well Technician's Licence No.

Jeff Skitch T-1462

Signature of Technician/Contractor Date Submitted YYYY MM DD

X [Signature]

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.

Headline Rd

400

100m

McConnell Ave

Audit No. Z 19969 Date Well Completed YYYY MM DD 2004 11 2

Was the well owner's information package delivered? ☒ Yes ☐ No Date Delivered YYYY MM DD 2004 11 2

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Data Source Contractor 4609

Date Received YYYY MM DD DEC 23 2004 Date of Inspection YYYY MM DD

Remarks Well Record Number 5804900

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Well Owner's Information and Location of Well Information

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MUN 58001 CON CON 04 LOT 04

RR#/Street Number/Name: South Branch Road City/Town/Village: Cornwall Site/Compartment/Block/Tract etc.: 4 4

GPS Reading: 8.3 NAD: 18 Zone: 519415 Easting: 4992452 Northing: Garmin Unit Make/Model: Garmin Mode of Operation: ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify _____

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Metres To
Grey	Gravel	Fill	Loose	0	3.0
Brown	Till	Stones	Packed	3.0	7.7
Grey	Till	Gravel	Packed	7.7	14.0
Grey	Limestone		Layered	14.0	24.4

Hole Diameter			Construction Record				Test of Well Yield					
Depth From	Metres To	Diameter Centimetres	Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Metres To	Pumping test method	Draw Down Time min	Water Level Metres	Recovery Time min	Water Level Metres
0	24.4	15.2	15.2	<input checked="" type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized	0.48	0	14.0	Summersible				
								Pump intake set at (metres)	1	6.1		
								Pumping rate (litres/min)	1	7.3	1	11.1
								Duration of pumping	2	8.2	2	10.4
								Final water level end of pumping	3	8.8	3	9.7
								Recommended pump type	4	9.1	4	9.4
								Recommended pump depth	5	9.4	5	9.2
								Recommended pump rate (litres/min)	10	10.0	10	7.6
								If flowing give rate (litres/min)	15	10.8	15	7.3
								If pumping discontinued, give reason.	20	11.1	20	7.1
									25	11.4	25	6.8
									30	11.6	30	6.6
									40	11.8	40	6.4
									50	12.1	50	6.2
									60	12.5	60	6.1

Water Record

Water found at 21 metres

Kind of Water: ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals

After test of well yield, water was ☒ Clear and sediment free ☐ Other, specify _____

Chlorinated ☒ Yes ☐ No

Plugging and Sealing Record ☒ Annular space ☐ Abandonment

Depth set at - Metres From: 0 To: 14.0 Material and type (bentonite slurry, neat cement slurry) etc.: Clay Bentonite Volume Placed (cubic metres): 0.6 m³

Method of Construction

☐ Cable Tool ☒ Rotary (air) ☐ Diamond ☐ Digging

☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☐ Other

☐ Rotary (reverse) ☐ Boring ☐ Driving

Water Use

☐ Domestic ☐ Industrial ☐ Public Supply ☐ Other

☐ Stock ☒ Commercial ☐ Not used

☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☒ Water Supply ☐ Recharge well ☐ Unfinished ☐ Abandoned, (Other)

☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering

☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Well Contractor/Technician Information

Name of Well Contractor: Roy's LBR Ltd Well Contractor's Licence No.: 4609

Business Address (street name, number, city etc.): Cornwall

Name of Well Technician (last name, first name): Jeff Skitch Well Technician's Licence No.: 7-1762

Signature of Well Contractor: [Signature] Date Submitted: SEP 09 2004

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.

McConnell Ave ← 1 km → ↑ 500 m ↓

South Branch Rd

Audit No.: Z 10057 Date Well Completed: 2004 7 13

Was the well owner's information package delivered? ☐ Yes ☒ No Date Delivered: 2004 7 13

Ministry Use Only

Data Source: 4609 Contractor: 4609

Date Received: SEP 09 2004 Date of Inspection: SEP 09 2004

Remarks: 5804869 Well Record Number: 5804869



The Ontario Water Resources Act WATER WELL RECORD

Mark correct box with a checkmark, where applicable.

Municipality **58501** Con. **CON** **03**

County or District St Albans	Township/Borough/City/Town/Village Cornwall	Con block tract survey, etc. 3	Lot 4	25-27
Address South Branch Rd 17695		Date completed 04/09/02	48-51 day month year	

[illegible][illegible][illegible]

41		WATER RECORD		21	
Water found at - feet		Kind of water			
10-13	1 <input checked="" type="checkbox"/> Fresh	3 <input type="checkbox"/> Sulphur	14		
80 ft	2 <input type="checkbox"/> Salty	4 <input type="checkbox"/> Minerals			
		6 <input type="checkbox"/> Gas			
15-18	1 <input type="checkbox"/> Fresh	3 <input type="checkbox"/> Sulphur	19		
	2 <input type="checkbox"/> Salty	4 <input type="checkbox"/> Minerals			
		6 <input type="checkbox"/> Gas			
20-23	1 <input type="checkbox"/> Fresh	3 <input type="checkbox"/> Sulphur	24		
	2 <input type="checkbox"/> Salty	4 <input type="checkbox"/> Minerals			
		6 <input type="checkbox"/> Gas			
25-28	1 <input type="checkbox"/> Fresh	3 <input type="checkbox"/> Sulphur	29		
	2 <input type="checkbox"/> Salty	4 <input type="checkbox"/> Minerals			
		6 <input type="checkbox"/> Gas			
30-33	1 <input type="checkbox"/> Fresh	3 <input type="checkbox"/> Sulphur	34		
	2 <input type="checkbox"/> Salty	4 <input type="checkbox"/> Minerals			
		6 <input type="checkbox"/> Gas			

CASING & OPEN HOLE RECORD				
Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
10-11 8 3/4"	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic	12	0	13-15 38
17-18 6 7/8"	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic	19 1.88	+2	20-23 40
24-25 6"	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic	26	40	27-30 100

SCREEN	Sizes of opening (Slot No.)	31-33	Diameter	34-38	Length	39-40
			inches		feet	
	Material and type				Depth at top of screen	30
					feet	

61		PLUGGING & SEALING RECORD	
<input checked="" type="checkbox"/> Annular space		<input type="checkbox"/> Abandonment	
Depth set at - feet		Material and type (Cement grout, bentonite, etc.)	
From	To		
0-13	13-25	Cement grout	
18-21	22-25		
26-28	30-33		

PUMPING TEST	Pumping test method ¹⁰ 1 <input type="checkbox"/> Pump <input checked="" type="checkbox"/> Drill Well		Pumping rate ¹¹⁻¹⁴ 4 GPM		Duration of pumping ¹⁵⁻¹⁶ 1 Hours 0 Mins	
	Static level	Water level end of pumping	Water levels during ²⁵		1 <input type="checkbox"/> Pumping 2 <input checked="" type="checkbox"/> Recovery	
	¹⁹⁻²¹ 20 feet	²²⁻²⁴ 100 feet	²⁶⁻²⁸ 15 minutes 50 feet	²⁹⁻³¹ 30 minutes 40 feet	³²⁻³⁴ 45 minutes 30 feet	³⁵⁻³⁷ 60 minutes 20 feet
	If flowing give rate ³⁸⁻⁴¹ GPM		Pump intake set at ⁴² 100 feet		Water at end of test <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Cloudy	
	Recommended pump type <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep		Recommended pump setting ⁴³⁻⁴⁵ 90 feet		Recommended pump rate ⁴⁶⁻⁴⁹ 3 GPM	
	50-53					

FINAL STATUS OF WELL			54
1 <input checked="" type="checkbox"/> Water supply	5 <input type="checkbox"/> Abandoned, insufficient supply	9 <input type="checkbox"/> Unfinished	
2 <input type="checkbox"/> Observation well	6 <input type="checkbox"/> Abandoned, poor quality	10 <input type="checkbox"/> Replacement well	
3 <input type="checkbox"/> Test hole	7 <input type="checkbox"/> Abandoned (Other)		
4 <input type="checkbox"/> Recharge well	8 <input type="checkbox"/> Dewatering		

WATER USE			55-56
1 <input checked="" type="checkbox"/> Domestic	5 <input type="checkbox"/> Commercial	9 <input type="checkbox"/> Not use	
2 <input type="checkbox"/> Stock	6 <input type="checkbox"/> Municipal	10 <input type="checkbox"/> Other	
3 <input type="checkbox"/> Irrigation	7 <input type="checkbox"/> Public supply		
4 <input type="checkbox"/> Industrial	8 <input type="checkbox"/> Cooling & air conditioning		

METHOD OF CONSTRUCTION			57
1 <input type="checkbox"/> Cable tool	5 <input type="checkbox"/> Air percussion	9 <input type="checkbox"/> Driving	
2 <input type="checkbox"/> Rotary (conventional)	6 <input type="checkbox"/> Boring	10 <input type="checkbox"/> Digging	
3 <input type="checkbox"/> Rotary (reverse)	7 <input type="checkbox"/> Diamond	11 <input type="checkbox"/> Other	
4 <input checked="" type="checkbox"/> Rotary (air)	8 <input type="checkbox"/> Jetting		

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.

N 71

240452

Name of Well Contractor <i>Gilles Bourgeois Well Drill</i>	Well Contractor's Licence No. <i>1414</i>
Address <i>St-Albert Ont.</i>	
Name of Well Technician <i>Jacques Raymond</i>	Well Technician's Licence No. <i>T-0264</i>
Signature of Technician/Contractor <i>[Signature]</i>	Submission date <i>04 09 02</i> day mo yr

MINISTRY USE ONLY	Data source	58	Contractor	59 62	Date received	63-66	60
			1414		SEP 13 2002		
	Date of inspection			Inspector			
	Remarks	CSS.ES2					

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

11

5804631

Municipality
58001

Con.
|CO|N

104

County or District Stormon 4	Township/Borough/City/Town/Village Cornwall	Con. block tract survey, etc. 4	Lot 2
Address 17885 South Branch Rd		Date completed 17 Jan 02	day month year

[illegible]

31

32

41 WATER RECORD				
Water found at - feet		Kind of water		
29 ¹⁴⁻¹³	1 <input checked="" type="checkbox"/> Fresh	3 <input type="checkbox"/> Sulphur	14	
	2 <input type="checkbox"/> Salty	4 <input type="checkbox"/> Minerals		
54 ¹⁵⁻¹⁸	1 <input checked="" type="checkbox"/> Fresh	3 <input type="checkbox"/> Sulphur	19	
	2 <input type="checkbox"/> Salty	4 <input type="checkbox"/> Minerals		
20-23	1 <input type="checkbox"/> Fresh	3 <input type="checkbox"/> Sulphur	24	
	2 <input type="checkbox"/> Salty	4 <input type="checkbox"/> Minerals		
25-28	1 <input type="checkbox"/> Fresh	3 <input type="checkbox"/> Sulphur	29	
	2 <input type="checkbox"/> Salty	4 <input type="checkbox"/> Minerals		
30-33	1 <input type="checkbox"/> Fresh	3 <input type="checkbox"/> Sulphur	34	
	2 <input type="checkbox"/> Salty	4 <input type="checkbox"/> Minerals		

51 CASING & OPEN HOLE RECORD				
Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
10-11 6 1/4	<input checked="" type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic	12 188	0	13-16 25
17-18 6	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Open hole <input type="checkbox"/> Plastic	19	25	20-23 60
24-25	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic	26		27-30

SCREEN	Sizes of opening (Slot No.)	31-33	Diameter	34-38	Length	39-40
			inches		feet	
	Material and type				Depth at top of screen	41-44
					feet	30

61				PLUGGING & SEALING RECORD			
<input checked="" type="checkbox"/> Annular space				<input type="checkbox"/> Abandonment			
Depth set at - feet		Material and type (Cement grout, bentonite, etc.)					
From	To						
14-13	17-17	clay (Benseal)					
18-21	22-25						
26-29	30-33	80					

PUMPING TEST	Pumping test method ¹⁰ 1 <input checked="" type="checkbox"/> Pump 2 <input type="checkbox"/> Bailor		Pumping rate ¹¹⁻¹⁴ 10 GPM		Duration of pumping ¹⁵⁻¹⁶ 1 Hours 00 ¹⁷⁻¹⁸ Mins	
	Static level	Water level end of pumping	Water levels during 1 <input type="checkbox"/> Pumping 2 <input checked="" type="checkbox"/> Recovery			
	¹⁹⁻²¹ 10 feet	²²⁻²⁴ 60 feet	²⁵ 15 minutes ²⁶⁻²⁸ 19 feet	²⁹⁻³¹ 30 minutes 14 feet	³²⁻³⁴ 45 minutes 11 feet	³⁵⁻³⁷ 60 minutes 10 feet
	if flowing give rate ³⁸⁻⁴¹ GPM		Pump intake set at 60 feet		Water at end of test ⁴² <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Cloudy	
	Recommended pump type <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep		Recommended pump setting ⁴³⁻⁴⁵ 45 feet		Recommended pump rate ⁴⁶⁻⁴⁹ 10 GPM	

FINAL STATUS OF WELL 54

1 <input checked="" type="checkbox"/> Water supply	5 <input type="checkbox"/> Abandoned, insufficient supply	9 <input type="checkbox"/> Unfinished
2 <input type="checkbox"/> Observation well	6 <input type="checkbox"/> Abandoned, poor quality	10 <input type="checkbox"/> Replacement well
3 <input type="checkbox"/> Test hole	7 <input type="checkbox"/> Abandoned (Other)	
4 <input type="checkbox"/> Recharge well	8 <input type="checkbox"/> Dewatering	

WATER USE 55-56

1 <input type="checkbox"/> Domestic	5 <input checked="" type="checkbox"/> Commercial	9 <input type="checkbox"/> Not use
2 <input type="checkbox"/> Stock	6 <input type="checkbox"/> Municipal	10 <input type="checkbox"/> Other
3 <input type="checkbox"/> Irrigation	7 <input type="checkbox"/> Public supply	
4 <input type="checkbox"/> Industrial	8 <input type="checkbox"/> Cooling & air conditioning	

METHOD OF CONSTRUCTION 57

1 <input type="checkbox"/> Cable tool	5* <input type="checkbox"/> Air percussion	9 <input type="checkbox"/> Driving
2 <input type="checkbox"/> Rotary (conventional)	6 <input type="checkbox"/> Boring	10 <input type="checkbox"/> Digging
3 <input type="checkbox"/> Rotary (reverse)	7 <input type="checkbox"/> Diamond	11 <input type="checkbox"/> Other
4 <input checked="" type="checkbox"/> Rotary (air)	8 <input type="checkbox"/> Jetting	

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.

McCConnell Ave

1 1/2 miles

1500

South Branch Rd

243282

Name of Well Contractor Roy's LBR Ltd	Well Contractor's Licence No. 4609
Address Cornwall	
Name of Well Technician Roger Roy	Well Technician's Licence No. T-0330
Signature of Technician/Contractor	Submission date day mo yr

MINISTRY USE ONLY	Data source	58 Contractor	58-62	Date received	63-65	HO
		4609		JUN 06 2002		
	Date of inspection		Inspector			
	Remarks					



The Ontario Water Resources Act WATER WELL RECORD

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

11

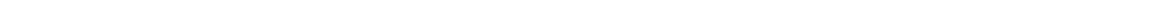
5804421

Municipality
58001

Con.
CON

Q4

County or District <i>Stromont</i>	Township/Borough/City/Town/Village <i>Cornwall</i>	Con block tract survey, etc. <i>4</i>	Lot <i>6</i>
Address <i>Cornwall Ont</i>		Date completed <i>26</i> day <i>June</i> month <i>2008</i> year	
21	Northings	RC	Elevation
	RC	Basin Code	

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)[illegible]

41		10		15		21		27	
WATER RECORD									
Water found at - feet		Kind of water							
60	10-13	1	<input checked="" type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	14			
	2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals	6	<input type="checkbox"/> Gas			
	15-8	1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	19			
	2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals	6	<input type="checkbox"/> Gas			
	20-23	1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	24			
	2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals	6	<input type="checkbox"/> Gas			
	25-28	1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	29			
	2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals	6	<input type="checkbox"/> Gas			
	33-33	1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	34			
	2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals	6	<input type="checkbox"/> Gas			

CASING & OPEN HOLE RECORD				
Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
10-11 8 3/4	<input type="checkbox"/> Steel <input checked="" type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic		0	50
12-13 6 1/4	<input checked="" type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic	1.88	72	50
24-25 6 3/8	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic		50	65

SCREEN	Sizes of opening (Slot No.)	31-32 65	34-38 inches	Length feet	39-40 39-40
	Material and type	Depth at top of screen feet			

61	PLUGGING & SEALING RECORD			
<input checked="" type="checkbox"/> Annular space		<input type="checkbox"/> Abandonment		
Depth set at - feet		Material and type (Cement grout, bentonite, etc.)		
From	To			
18-13	23-12	cement Grout		
13-21	22-25			
25-29	30-33	80		

PUMPING TEST	Pumping test method ¹⁰ 1 <input checked="" type="checkbox"/> Pump 2 <input type="checkbox"/> Bailer		Pumping rate ¹¹⁻¹⁴ 10 GPM		Duration of pumping ¹⁵⁻¹⁶ 17 18 Hours 0 Mins	
	Static level ¹⁵⁻²¹	Water level end of pumping ²²⁻²⁴	Water levels during 1 <input type="checkbox"/> Pumping 2 <input checked="" type="checkbox"/> Recovery			
	20 ¹⁵⁻²¹ feet	58 ²²⁻²⁴ feet	15 minutes ²⁵⁻²⁸ 20 ²⁵⁻²⁸ feet	30 minutes ²⁹⁻³¹ 20 ²⁹⁻³¹ feet	45 minutes ³²⁻³⁴ 20 ³²⁻³⁴ feet	60 minutes ³⁵⁻³⁷ 20 ³⁵⁻³⁷ feet
	If flowing give rate ³⁸⁻⁴¹	Pump intake set at ⁴²		Water at end of test		
	GPM	65 ⁴³⁻⁴⁵ feet		<input type="checkbox"/> Clear <input checked="" type="checkbox"/> Cloudy		
	Recommended pump type <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep	Recommended pump setting 50 ⁴⁶⁻⁴⁹ feet		Recommended pump rate 8 GPM		

FINAL STATUS OF WELL 54

1 <input checked="" type="checkbox"/> Water supply	5 <input type="checkbox"/> Abandoned, insufficient supply	9 <input type="checkbox"/> Unfinished
2 <input type="checkbox"/> Observation well	6 <input type="checkbox"/> Abandoned, poor quality	10 <input type="checkbox"/> Replacement well
3 <input type="checkbox"/> Test hole	7 <input type="checkbox"/> Abandoned (Other)	
4 <input type="checkbox"/> Recharge well	8 <input type="checkbox"/> Dewatering	

WATER USE

1 ☒ Domestic
2 ☐ Stock
3 ☐ Irrigation
4 ☐ Industrial

5 ☐ Commercial
6 ☐ Municipal
7 ☐ Public supply
8 ☐ Cooling & air conditioning

9 ☐ Not use
10 ☐ Other

METHOD OF CONSTRUCTION ⁵⁷

1 <input type="checkbox"/> Cable tool	5 <input type="checkbox"/> Air percussion	9 <input type="checkbox"/> Driving
2 <input type="checkbox"/> Rotary (conventional)	6 <input type="checkbox"/> Boring	10 <input type="checkbox"/> Digging
3 <input type="checkbox"/> Rotary (reverse)	7 <input type="checkbox"/> Diamond	11 <input type="checkbox"/> Other
4 <input checked="" type="checkbox"/> Rotary (air)	8 <input type="checkbox"/> Jetting	

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.

The diagram is a hand-drawn sketch on a grid background. It shows a rectangular lot. To the left of the lot is a vertical line labeled 'Power Rd'. To the bottom of the lot is a horizontal line labeled 'Head line Rd'. Inside the lot, there is a point representing a well. A horizontal line segment from the left boundary of the lot to the well is labeled '400''. A vertical line segment from the bottom boundary of the lot to the well is labeled '75''. A north arrow is drawn in the upper right corner of the diagram, pointing towards the top right. The word 'well' is written near the well point.

217162

Name of Well Contractor <i>Gilles Bourgeois</i>	Well Contractor's Licence No. <i>1414</i>
Address <i>St A 16er St</i>	
Name of Well Technician <i>St A</i>	Well Technician's Licence No. <i>0-193</i>
Signature of Technician/Contractor <i>B. H. Bourgeois</i>	Submission date <i>6 June 2000</i> day mo yr

MINISTRY USE ONLY	Data source	58 Contractor	59 62	Date received	63 68	69
		1414		JUL 04 2000		
	Date of inspection	Inspector				
	Remarks					

CSS.ES0



Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

11

5804420

Municipality
5800

Con
CON

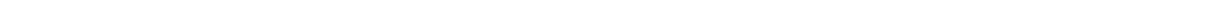
04

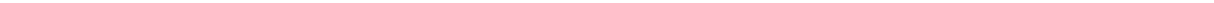
Plan 378

County or District <i>STOR mont</i>		Township/Borough/City/Town/Village <i>CORN wall</i>		Con block tract survey, etc. <i>4</i>		Lot <i>3</i>	
[Redacted]		Address <i>R R 1 Longault</i>		Date completed <i>28</i> day <i>June</i> year <i>46</i>			
		Northing <i>5508</i> Easting <i>Padon Avenue</i> Elevation <i>5508</i> Basin Code <i>IV</i>					

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

[illegible]

31 

32 

41		42		43		44		45		46	
WATER RECORD											
Water found at - feet			Kind of water								
10-13			1	<input checked="" type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	14				
61			2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals					
					6	<input type="checkbox"/> Gas					
15-18			1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	19				
			2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals					
					5	<input type="checkbox"/> Gas					
20-23			1	<input type="checkbox"/> Fresh	2	<input type="checkbox"/> Sulphur	24				
			2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals					
					6	<input type="checkbox"/> Gas					
25-28			1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	29				
			2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals					
					6	<input type="checkbox"/> Gas					
30-33			1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	34				
			2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals					
					6	<input type="checkbox"/> Gas					

CASING & OPEN HOLE RECORD				
Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
10-11 8 3/4	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Open hole <input type="checkbox"/> Plastic	12		13-16
17-18 6 1/2	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Open hole <input type="checkbox"/> Plastic	19	184	20-23 51
24-25 6 1/2	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Open hole <input type="checkbox"/> Plastic	26	51	27-30 65

SCREEN	Sizes of opening (Slot No.)	91-93	Diameter	94-98	Length	99-101
			inches		feet	
	Material and type			Depth at top of screen	102	
				feet		

61	PLUGGING & SEALING RECORD			
<input checked="" type="checkbox"/> Annular space		<input type="checkbox"/> Abandonment		
Depth set at - feet		Material and type (Cement grout, bentonite, etc.)		
From	To			
0 ^{1.3}	25 ^{14.0}	Cement Grout		
15-21	22-25			
25-29	30-33	30		

PUMPING TEST	Pumping test method 1 <input checked="" type="checkbox"/> Pump 2 <input type="checkbox"/> Bailer		Pumping rate 4 GPM		Duration of pumping 1 Hours 0 Mins	
	Static level	Water level end of pumping	Water levels during		1 <input type="checkbox"/> Pumping 2 <input checked="" type="checkbox"/> Recovery	
	15.21	22.24	15 minutes 26-28	30 minutes 29-31	45 minutes 32-34	60 minutes 35-37
	15 feet	60 feet	15 feet	15 feet	15 feet	15 feet
	If flowing give rate	GPM	Pump intake set at		Water at end of test	
				<input type="checkbox"/> Clear <input checked="" type="checkbox"/> Cloudy		
	Recommended pump type <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep	Recommended pump setting 55 feet	Recommended pump rate 45 GPM			

FINAL STATUS OF WELL 54

1 <input checked="" type="checkbox"/> Water supply	5 <input type="checkbox"/> Abandoned, insufficient supply	9 <input type="checkbox"/> Unfinished
2 <input checked="" type="checkbox"/> Observation well	6 <input type="checkbox"/> Abandoned, poor quality	10 <input type="checkbox"/> Replacement well
3 <input type="checkbox"/> Test hole	7 <input type="checkbox"/> Abandoned (Other)	
4 <input type="checkbox"/> Recharge well	8 <input type="checkbox"/> Dewatering	

WATER USE 5a-5b

1 <input checked="" type="checkbox"/> Domestic	5 <input type="checkbox"/> Commercial	9 <input type="checkbox"/> Not use
2 <input type="checkbox"/> Stock	6 <input type="checkbox"/> Municipal	10 <input type="checkbox"/> Other
3 <input type="checkbox"/> Irrigation	7 <input type="checkbox"/> Public supply	
4 <input type="checkbox"/> Industrial	8 <input type="checkbox"/> Cooling & air conditioning	

METHOD OF CONSTRUCTION 57

1 <input type="checkbox"/> Cable tool	5 <input type="checkbox"/> Air percussion	9 <input type="checkbox"/> Driving
2 <input type="checkbox"/> Rotary (conventional)	6 <input type="checkbox"/> Boring	10 <input type="checkbox"/> Digging
3 <input type="checkbox"/> Rotary (reverse)	7 <input type="checkbox"/> Diamond	11 <input type="checkbox"/> Other
4 <input checked="" type="checkbox"/> Rotary (air)	8 <input type="checkbox"/> Jetting	

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.

well

75'

500'

Pole line

Head line rd

217161

Name of Well Contractor <i>Gilios Bongers</i>	Well Contractor's Licence No. <i>1414</i>
Address <i>574 16th Ave</i>	
Name of Well Technician <i>S A me</i>	Well Technician's Licence No. <i>0-163</i>
Signature of Technician/Contractor <i>[Signature]</i>	Submission date <i>28</i> day <i>10</i> mo <i>2000</i> yr

MINISTRY USE ONLY	Data source	58 Contractor	59-62	Date received	63-65	66
		1414		JUL 04 2000		
	Date of inspection	Inspector				
	Remarks					
	CSS.ESO					

Print only in spaces provided. Mark correct box with a checkmark, where applicable.

11

5804403

Municipality 58001

Con. CON

04

County or District: St. Albans Township/Borough/City/Town/Village: Cornwall South St. Albans Con. block tract survey, etc.: 4 Lot: 3 Address: 182 Cornwall Date completed: 7 Feb 2000

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet	
				From	To
brown	till	boulders	Hard	0	12
grey	till	boulders	Hard	12	39
grey	limestone		Fracture	39	78

WATER RECORD

Water found at - feet	Kind of water
75	<input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas

CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
8 3/4	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic		0	41
6 1/4	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic	1.88	41	41
6 1/8	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic		41	78

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

PLUGGING & SEALING RECORD

Depth set at - feet	Material and type (Cement grout, bentonite, etc.)
0 to 25	cement grout

PUMPING TEST

Pumping test method: <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Bailer	Pumping rate: 20 GPM	Duration of pumping: 1 Hours 0 Mins
Static level: 26 feet	Water level end of pumping: 70 feet	Water levels during: 15 minutes: 26 feet, 30 minutes: 26 feet, 45 minutes: 26 feet, 60 minutes: 26 feet
If flowing give rate: GPM	Pump intake set at: 60 feet	Water at end of test: <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Cloudy
Recommended pump type: <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep	Recommended pump setting: 60 feet	Recommended pump rate: 10 GPM

FINAL STATUS OF WELL

<input checked="" type="checkbox"/> Water supply	<input type="checkbox"/> Abandoned, insufficient supply	<input type="checkbox"/> Unfinished
<input type="checkbox"/> Observation well	<input type="checkbox"/> Abandoned, poor quality	<input type="checkbox"/> Replacement well
<input type="checkbox"/> Test hole	<input type="checkbox"/> Abandoned (Other)	
<input type="checkbox"/> Recharge well	<input type="checkbox"/> Dewatering	

WATER USE

<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Commercial	<input type="checkbox"/> Not use
<input type="checkbox"/> Stock	<input type="checkbox"/> Municipal	<input type="checkbox"/> Other
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Public supply	
<input type="checkbox"/> Industrial	<input type="checkbox"/> Cooling & air conditioning	

METHOD OF CONSTRUCTION

<input type="checkbox"/> Cable tool	<input type="checkbox"/> Air percussion	<input type="checkbox"/> Driving
<input type="checkbox"/> Rotary (conventional)	<input type="checkbox"/> Boring	<input type="checkbox"/> Digging
<input type="checkbox"/> Rotary (reverse)	<input type="checkbox"/> Diamond	<input type="checkbox"/> Other
<input checked="" type="checkbox"/> Rotary (air)	<input type="checkbox"/> Jetting	

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.

Diagram showing well location relative to road and lot line. Distances: 1000' to road, 1000' to lot line. North arrow pointing up.

209972

Name of Well Contractor: Gilles Bou Agais Well Contractor's Licence No.: 1414

Address: 54 A 15th Ave

Name of Well Technician: [Signature] Well Technician's Licence No.: 0-193

Submission date: 7 Feb 2000

MINISTRY USE ONLY

Data source: 1414 Date received: MAR 31 2000

Date of inspection: Inspector: Remarks:

CSS.ES0

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5804246

Municipality
58001

Con.
CON

04

County or District STORMONT	Township/Borough/City/Town/Village South Stormont	Con block tract survey, etc. 4	Lot 1013
Address South Branch Cornwall		Date completed 2 June 98	

Northings	RC	Elevation	RC	Basin Code	ii	iii	iv
-----------	----	-----------	----	------------	----	-----	----

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)					
General colour	Most common material	Other materials	General description	Depth - feet	
				From	To
Brown	fill		Hard	0	10
Brown	sand	boulders	Hard	10	14
grey	fill	boulders	Hard	14	32
grey	sand gravel		fractured	32	47
grey	limestone		Solid Rock	47	

31																			
32																			

41 WATER RECORD Water found at - feet Kind of water 1 <input type="checkbox"/> Fresh 3 <input type="checkbox"/> Sulphur 14 2 <input type="checkbox"/> Salty 4 <input type="checkbox"/> Minerals 15 5 <input type="checkbox"/> Gas 6 <input type="checkbox"/> Gas 16		51 CASING & OPEN HOLE RECORD Inside diam inches Material Wall thickness inches Depth - feet From To		SCREEN Sizes of opening (Slot No.) Diameter inches Length feet Material and type Depth at top of screen feet	
10-13 1 <input type="checkbox"/> Fresh 3 <input type="checkbox"/> Sulphur 14 2 <input type="checkbox"/> Salty 4 <input type="checkbox"/> Minerals 15 5 <input type="checkbox"/> Gas 6 <input type="checkbox"/> Gas 16		10-11 1 <input type="checkbox"/> Steel 12 2 <input type="checkbox"/> Galvanized 13 3 <input type="checkbox"/> Concrete 14 4 <input type="checkbox"/> Open hole 15 5 <input type="checkbox"/> Plastic 16		31-33 34-38 39-40	
15-18 1 <input type="checkbox"/> Fresh 3 <input type="checkbox"/> Sulphur 19 2 <input type="checkbox"/> Salty 4 <input type="checkbox"/> Minerals 20 5 <input type="checkbox"/> Gas 6 <input type="checkbox"/> Gas 21		17-18 1 <input type="checkbox"/> Steel 19 2 <input type="checkbox"/> Galvanized 20 3 <input type="checkbox"/> Concrete 21 4 <input type="checkbox"/> Open hole 22 5 <input type="checkbox"/> Plastic 23		61 PLUGGING & SEALING RECORD <input type="checkbox"/> Annular space <input checked="" type="checkbox"/> abandonment Depth set at - feet From To Material and type (Cement grout, bentonite, etc.)	
20-23 1 <input type="checkbox"/> Fresh 3 <input type="checkbox"/> Sulphur 24 2 <input type="checkbox"/> Salty 4 <input type="checkbox"/> Minerals 25 5 <input type="checkbox"/> Gas 6 <input type="checkbox"/> Gas 26		24-25 1 <input type="checkbox"/> Steel 26 2 <input type="checkbox"/> Galvanized 27 3 <input type="checkbox"/> Concrete 28 4 <input type="checkbox"/> Open hole 29 5 <input type="checkbox"/> Plastic 30		16-17 1 <input type="checkbox"/> Steel 18 2 <input type="checkbox"/> Galvanized 19 3 <input type="checkbox"/> Concrete 20 4 <input type="checkbox"/> Open hole 21 5 <input type="checkbox"/> Plastic 22	
25-28 1 <input type="checkbox"/> Fresh 3 <input type="checkbox"/> Sulphur 29 2 <input type="checkbox"/> Salty 4 <input type="checkbox"/> Minerals 30 5 <input type="checkbox"/> Gas 6 <input type="checkbox"/> Gas 31		27-30 1 <input type="checkbox"/> Steel 31 2 <input type="checkbox"/> Galvanized 32 3 <input type="checkbox"/> Concrete 33 4 <input type="checkbox"/> Open hole 34 5 <input type="checkbox"/> Plastic 35		18-21 1 <input type="checkbox"/> Steel 22 2 <input type="checkbox"/> Galvanized 23 3 <input type="checkbox"/> Concrete 24 4 <input type="checkbox"/> Open hole 25 5 <input type="checkbox"/> Plastic 26	
30-33 1 <input type="checkbox"/> Fresh 3 <input type="checkbox"/> Sulphur 34 2 <input type="checkbox"/> Salty 4 <input type="checkbox"/> Minerals 35 5 <input type="checkbox"/> Gas 6 <input type="checkbox"/> Gas 36				22-25 1 <input type="checkbox"/> Steel 26 2 <input type="checkbox"/> Galvanized 27 3 <input type="checkbox"/> Concrete 28 4 <input type="checkbox"/> Open hole 29 5 <input type="checkbox"/> Plastic 30	

71	Pumping test method 1 <input type="checkbox"/> Pump 2 <input type="checkbox"/> Baller	10	Pumping rate GPM	11-14	Duration of pumping Hours Mins	15-18	17-18
PUMPING TEST	Static level feet	Water level end of pumping feet	Water levels during 15 minutes feet	30 minutes feet	45 minutes feet	60 minutes feet	
	If flowing give rate GPM	Pump intake set at feet	Water at end of test <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy				
	Recommended pump type <input type="checkbox"/> Shallow <input type="checkbox"/> Deep	Recommended pump setting feet	Recommended pump rate GPM				

FINAL STATUS OF WELL 1 <input type="checkbox"/> Water supply 5 <input type="checkbox"/> Abandoned, insufficient supply 9 <input type="checkbox"/> Unfinished 2 <input type="checkbox"/> Observation well 6 <input type="checkbox"/> Abandoned, poor quality 10 <input type="checkbox"/> Replacement well 3 <input type="checkbox"/> Test hole 7 <input type="checkbox"/> Abandoned (Other) 4 <input type="checkbox"/> Recharge well 8 <input type="checkbox"/> Dewatering			
WATER USE 1 <input type="checkbox"/> Domestic 5 <input type="checkbox"/> Commercial 9 <input checked="" type="checkbox"/> Not used 2 <input type="checkbox"/> Stock 6 <input type="checkbox"/> Municipal 10 <input type="checkbox"/> Other 3 <input type="checkbox"/> Irrigation 7 <input type="checkbox"/> Public supply 4 <input type="checkbox"/> Industrial 8 <input type="checkbox"/> Cooling & air conditioning			
METHOD OF CONSTRUCTION 1 <input type="checkbox"/> Cable tool 5 <input type="checkbox"/> Air percussion 9 <input type="checkbox"/> Driving 2 <input type="checkbox"/> Rotary (conventional) 6 <input type="checkbox"/> Boring 10 <input type="checkbox"/> Digging 3 <input type="checkbox"/> Rotary (reverse) 7 <input type="checkbox"/> Diamond 11 <input type="checkbox"/> Other 4 <input checked="" type="checkbox"/> Rotary (air) 8 <input type="checkbox"/> Jetting			

LOCATION OF WELL In diagram below show distances of well from road and lot line. Indicate north by arrow.	
187349	

Name of Well Contractor Gilles Bourgeois		Well Contractor's Licence No. 1414	
Address 57 Albert St		Date received JUN 12 1998	
Name of Well Technician Samuel		Well Technician's Licence No. 02193	
Signature of Technician/Contractor 		Submission date 2 June 98	

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5804245

Municipality 58001 Con. 04
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

County or District St Albans	Township/Borough/City/Town/Village South St Albans	Con block tract survey, etc. H	Lot 1st 3
Address South Branch Community		Date completed 2 June 98	year 98
Northings 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24		Elevations 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)					
General colour	Most common material	Other materials	General description	Depth - feet	
				From	To
Brown	till	boulders	Hand	0	7
grey	till	boulders	Hand	7	14
grey	sand & till		Packed	14	25
grey	sand	boulder	Hand	25	44
				44	

31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

41 WATER RECORD		51 CASING & OPEN HOLE RECORD		61 PLUGGING & SEALING RECORD	
Water found at - feet	Kind of water	Inside diam inches	Material	Wall thickness inches	Depth - feet
10-15	1 <input type="checkbox"/> Fresh 5 <input type="checkbox"/> Sulphur 14	10-11	1 <input type="checkbox"/> Steel 13		From To
15-20	2 <input type="checkbox"/> Salty 6 <input type="checkbox"/> Minerals 18	12-13	2 <input type="checkbox"/> Galvanized 14		0 44
20-25	3 <input type="checkbox"/> Fresh 7 <input type="checkbox"/> Sulphur 19	14-15	3 <input type="checkbox"/> Concrete 15		
25-30	4 <input type="checkbox"/> Salty 8 <input type="checkbox"/> Minerals 24	16-17	4 <input type="checkbox"/> Open hole 16		
30-35	5 <input type="checkbox"/> Fresh 9 <input type="checkbox"/> Sulphur 29	18-19	5 <input type="checkbox"/> Plastic 17		
	6 <input type="checkbox"/> Salty 10 <input type="checkbox"/> Minerals 34	20-21	1 <input type="checkbox"/> Steel 26		
	7 <input type="checkbox"/> Fresh 11 <input type="checkbox"/> Sulphur 39	22-23	2 <input type="checkbox"/> Galvanized 27		
	8 <input type="checkbox"/> Salty 12 <input type="checkbox"/> Minerals 44	24-25	3 <input type="checkbox"/> Concrete 28		
	9 <input type="checkbox"/> Fresh 13 <input type="checkbox"/> Sulphur 49	26-27	4 <input type="checkbox"/> Open hole 29		
	10 <input type="checkbox"/> Salty 14 <input type="checkbox"/> Minerals 54	28-29	5 <input type="checkbox"/> Plastic 30		

71 PUMPING TEST	Pumping test method 1 <input type="checkbox"/> Pump 2 <input type="checkbox"/> Bailer	Pumping rate GPM	Duration of pumping Hours Mins
Static level 19-21	Water level end of pumping 22-24	Water levels during 15 minutes 25-26 30 minutes 27-28 45 minutes 29-30 60 minutes 31-32	1 <input type="checkbox"/> Pumping 2 <input type="checkbox"/> Recovery
feet	feet	feet	feet
If flowing give rate 33-34	Pump intake set at 35-36	Water at end of test 37-38	1 <input type="checkbox"/> Clear 2 <input type="checkbox"/> Cloudy
GPM	feet	feet	
Recommended pump type 1 <input type="checkbox"/> Shallow 2 <input type="checkbox"/> Deep	Recommended pump setting 39-40	Recommended pump rate 41-42	GPM

FINAL STATUS OF WELL	
1 <input type="checkbox"/> Water supply 2 <input type="checkbox"/> Observation well 3 <input type="checkbox"/> Test hole 4 <input type="checkbox"/> Recharge well	5 <input type="checkbox"/> Abandoned, insufficient supply 6 <input type="checkbox"/> Abandoned, poor quality 7 <input type="checkbox"/> Abandoned (Other) 8 <input type="checkbox"/> Dewatering
WATER USE	
1 <input type="checkbox"/> Domestic 2 <input type="checkbox"/> Stock 3 <input type="checkbox"/> Irrigation 4 <input type="checkbox"/> Industrial	5 <input type="checkbox"/> Commercial 6 <input type="checkbox"/> Municipal 7 <input type="checkbox"/> Public supply 8 <input type="checkbox"/> Cooling & air conditioning
METHOD OF CONSTRUCTION	
1 <input type="checkbox"/> Cable tool 2 <input type="checkbox"/> Rotary (conventional) 3 <input type="checkbox"/> Rotary (reverse) 4 <input type="checkbox"/> Rotary (air)	5 <input type="checkbox"/> Air percussion 6 <input type="checkbox"/> Boring 7 <input type="checkbox"/> Diamond 8 <input type="checkbox"/> Jetting

83 LOCATION OF WELL
In diagram below show distances of well from road and lot line. Indicate north by arrow.
187350

Name of Well Contractor Gilles Boarjeois	Well Contractor's Licence No. 1414
Address St Albans	
Name of Well Technician S A me	Well Technician's Licence No. 0-193
Signature of Technician/Contractor [Signature]	Submission date 2 June 98

MINISTRY USE ONLY	Data source 1414	Date received JUN 12 1998
Date of inspection	Inspector	
Remarks	CSS. S9	



The Ontario Water Resources Act WATER WELL RECORD

Mark correct box with a checkmark, where applicable.

Municipality

Con.

5800

CON

C4

County or District Storment	Township/Borough/City/Town/Village south Storment	Con block tract survey, etc. 4	Lot ^{F.S. 37} lot 3 2
	Address south Branch rd Cornwall	Date completed 2 June 98 day month year	

[illegible]

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet	
				From	To
Brown	till		Hard	0	10
Brown	sand	boulders	Hard	10	15
grey	till		Hard	15	25
grey	gravel		pack	25	29
grey	boulder		Hard	29	31
grey	gravel		Pack	31	33
	limestone		Solid Rock	33	

31

32

41		WATER RECORD			
Water found at - feet		Kind of water			
10-15	1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	14
	2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals	
15-18	1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	19
	2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals	
20-23	1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	24
	2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals	
25-28	1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	29
	2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals	
30-33	1	<input type="checkbox"/> Fresh	3	<input type="checkbox"/> Sulphur	34
	2	<input type="checkbox"/> Salty	4	<input type="checkbox"/> Minerals	

51 CASING & OPEN HOLE RECORD				
Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
6" ²⁰⁻¹¹	<input type="checkbox"/> 1 Steel ¹² <input type="checkbox"/> 2 Galvanized <input type="checkbox"/> 3 Concrete <input checked="" type="checkbox"/> 4 Open hole <input type="checkbox"/> 5 Plastic		0	33 ¹³⁻¹⁶
17-18	<input type="checkbox"/> 1 Steel ¹⁹ <input type="checkbox"/> 2 Galvanized <input type="checkbox"/> 3 Concrete <input type="checkbox"/> 4 Open hole <input type="checkbox"/> 5 Plastic			20-23
24-25	<input type="checkbox"/> 1 Steel ²⁶ <input type="checkbox"/> 2 Galvanized <input type="checkbox"/> 3 Concrete <input type="checkbox"/> 4 Open hole <input type="checkbox"/> 5 Plastic			27-30

SCREEN	Sizes of opening (Slot No.)	31-33	Diameter	34-38	Length	39-40
			inches			feet
	Material and type	Depth at top of screen 41-44				50
						feet

61		PLUGGING & SEALING RECORD	
<input type="checkbox"/> Annular space		<input checked="" type="checkbox"/> Abandonment	
Depth set at _____ feet		Material and type (Cement grout, bentonite, etc.)	
From	To	bentonite clay	
10-13	14-17		
0	33		
18-21	22-25		
26-29	30-33	83	

PUMPING TEST	Pumping test method ¹⁰ <input type="checkbox"/> Pump <input type="checkbox"/> Bailor		Pumping rate ¹¹⁻¹⁴ GPM		Duration of pumping ¹⁵⁻¹⁶ Hours Minutes ¹⁷⁻¹⁸	
	Static level	Water level end of pumping	Water levels during <input type="checkbox"/> Pumping <input type="checkbox"/> Recovery			
	19-21	22-24	15 minutes ²⁵⁻²⁸	30 minutes ²⁹⁻³¹	45 minutes ³²⁻³⁴	60 minutes ³⁵⁻³⁷
	feet	feet	feet	feet	feet	feet
	If flowing give rate ³⁸⁻⁴¹ GPM	Pump intake set at ⁴² feet		Water at end of test <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy		
	Recommended pump type <input type="checkbox"/> Shallow <input type="checkbox"/> Deep	Recommended pump setting ⁴³⁻⁴⁵ feet		Recommended pump rate ⁴⁶⁻⁴⁹ GPM		

FINAL STATUS OF WELL 54

1 <input type="checkbox"/> Water supply	5 <input type="checkbox"/> Abandoned, insufficient supply	9 <input type="checkbox"/> Unfinished
2 <input type="checkbox"/> Observation well	6 <input type="checkbox"/> Abandoned, poor quality	10 <input type="checkbox"/> Replacement well
3 <input type="checkbox"/> Test hole	7 <input type="checkbox"/> Abandoned (Other)	
4 <input type="checkbox"/> Recharge well	8 <input type="checkbox"/> Dewatering	

WATER USE 55 56

1 <input type="checkbox"/> Domestic	5 <input type="checkbox"/> Commercial	9 <input type="checkbox"/> Not used
2 <input type="checkbox"/> Stock	6 <input type="checkbox"/> Municipal	10 <input type="checkbox"/> Other
3 <input type="checkbox"/> Irrigation	7 <input type="checkbox"/> Public supply	
4 <input type="checkbox"/> Industrial	8 <input type="checkbox"/> Cooling & air conditioning	

METHOD OF CONSTRUCTION 57

1 <input type="checkbox"/> Cable tool	5 <input type="checkbox"/> Air percussion	9 <input type="checkbox"/> Driving
2 <input type="checkbox"/> Rotary (conventional)	8 <input type="checkbox"/> Boring	10 <input type="checkbox"/> Digging
3 <input type="checkbox"/> Rotary (reverse)	7 <input type="checkbox"/> Diamond	11 <input type="checkbox"/> Other
4 <input type="checkbox"/> Rotary (air)	6 <input type="checkbox"/> Jacking	

#2

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.

Head line Rd

lot line


36'

100'

Hole

187351

Name of Well Contractor	Well Contractor's Licence No.
Gilles Bourgeois	1414
Address	
5xAlbion	
Name of Well Technician	Well Technician's Licence No.
Same	0-193
Signature of Technician/Contractor	Submission date
[Signature]	2 day 14 hr 18 min

MINISTRY USE ONLY	Data source	56	Contractor	56-60	Date received	63-66	68
			14 14		JUN 12 1998		
	Date of inspection	Inspector					
	Remarks						
	CSS. S9 						

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Mark correct box with a checkmark, where applicable.

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5804243

Municipality 58001 Con 04

County or District Stormont Township/Borough/City/Town/Village South Stormont Con block tract survey, etc. 4 Lot East 1/2 107 3

Address South Branch Rd Cornwall Date completed 1 June 98

Northing 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)					
General colour	Most common material	Other materials	General description	Depth - feet	
				From	To
Brown	till		Hard	0	8
grey	till		Hard	8	20
grey	Sand		pacted	20	32
grey	Broken Rock		Fracture	32	35
			Solid Rock	35	

31 32

41 WATER RECORD		51 CASING & OPEN HOLE RECORD		61 PLUGGING & SEALING RECORD	
Water found at - feet	Kind of water	Inside diam inches	Material	Wall thickness inches	Depth - feet
10-13	1 <input type="checkbox"/> Fresh 3 <input type="checkbox"/> Sulphur 14	10-11	1 <input type="checkbox"/> Steel 12		From To
15-18	2 <input type="checkbox"/> Salty 4 <input type="checkbox"/> Minerals 15	12-13	2 <input type="checkbox"/> Galvanized 13		13-16
20-23	3 <input type="checkbox"/> Fresh 5 <input type="checkbox"/> Gas 16	14-15	3 <input type="checkbox"/> Concrete 14		16-19
25-28	4 <input type="checkbox"/> Salty 6 <input type="checkbox"/> Minerals 17	16-17	4 <input type="checkbox"/> Open hole 15		19-22
30-33	5 <input type="checkbox"/> Fresh 7 <input type="checkbox"/> Sulphur 18	18-19	5 <input type="checkbox"/> Plastic 16		22-25
	6 <input type="checkbox"/> Salty 8 <input type="checkbox"/> Gas 19	20-21	1 <input type="checkbox"/> Steel 17		25-28
	7 <input type="checkbox"/> Fresh 9 <input type="checkbox"/> Minerals 20	22-23	2 <input type="checkbox"/> Galvanized 18		28-31
	8 <input type="checkbox"/> Salty 10 <input type="checkbox"/> Gas 21	24-25	3 <input type="checkbox"/> Concrete 19		31-34
	9 <input type="checkbox"/> Fresh 11 <input type="checkbox"/> Sulphur 22		4 <input type="checkbox"/> Open hole 20		34-37
	10 <input type="checkbox"/> Salty 12 <input type="checkbox"/> Minerals 23		5 <input type="checkbox"/> Plastic 21		37-40

71 PUMPING TEST		LOCATION OF WELL	
Pumping test method	Pumping rate	In diagram below show distances of well from road and lot line. Indicate north by arrow.	
1 <input type="checkbox"/> Pump 2 <input type="checkbox"/> Bailer	11-14 GPM	1320 ft	
Static level	Water level end of pumping	35 ft	
19-21	22-24	Hole	
15 minutes	30 minutes	Head line Rd	
25-26	29-31	Lot line	
45 minutes	60 minutes	187348	
32-34	35-37		
Water at end of test	Recommended pump type		
42	43-45		
Clear	Cloudy		
Recommended pump setting	Recommended pump rate		
44-45	46-48		

FINAL STATUS OF WELL		WATER USE	
1 <input type="checkbox"/> Water supply	5 <input type="checkbox"/> Abandoned, insufficient supply	1 <input type="checkbox"/> Domestic	5 <input type="checkbox"/> Commercial
2 <input type="checkbox"/> Observation well	6 <input type="checkbox"/> Abandoned, poor quality	2 <input type="checkbox"/> Stock	6 <input type="checkbox"/> Municipal
3 <input type="checkbox"/> Test hole	7 <input type="checkbox"/> Abandoned (Other)	3 <input type="checkbox"/> Irrigation	7 <input type="checkbox"/> Public supply
4 <input type="checkbox"/> Recharge well	8 <input type="checkbox"/> Dewatering	4 <input type="checkbox"/> Industrial	8 <input type="checkbox"/> Cooling & air conditioning
METHOD OF CONSTRUCTION		METHOD OF CONSTRUCTION	
1 <input type="checkbox"/> Cable tool	5 <input type="checkbox"/> Air percussion	1 <input type="checkbox"/> Cable tool	5 <input type="checkbox"/> Air percussion
2 <input type="checkbox"/> Rotary (conventional)	6 <input type="checkbox"/> Boring	2 <input type="checkbox"/> Rotary (conventional)	6 <input type="checkbox"/> Boring
3 <input type="checkbox"/> Rotary (reverse)	7 <input type="checkbox"/> Diamond	3 <input type="checkbox"/> Rotary (reverse)	7 <input type="checkbox"/> Diamond
4 <input type="checkbox"/> Rotary (air)	8 <input type="checkbox"/> Jetting	4 <input type="checkbox"/> Rotary (air)	8 <input type="checkbox"/> Jetting

Name of Well Contractor		Well Contractor's Licence No.	
Gilles Bowdrie's		1414	
Address		Date received	
37 A/Berthmont		JUN 12 1998	
Name of Well Technician		Well Technician's Licence No.	
SA me		0-193	
Signature of Technician/Contractor		Submission date	
[Signature]		2 June 98	

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Mark correct box with a checkmark, where applicable.

11

5804211

58001 CON

04

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
	Cornwall	4	2
Address		Date completed	
CORNWALL		27 11 97	
North		day month year	

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet	
				From	To
	Previously dug well			0	24
Brown	Hardpan	Boulders	Dense	24	42
Grey	Limestone Rock		Layered	42	50

41 WATER RECORD	
Water found at - feet	Kind of water
45	<input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas

51 CASING & OPEN HOLE RECORD			
Inside diam inches	Material	Wall thickness inches	Depth - feet
6 1/2"	Steel		0 42
6"	Galvanized		42 50

SCREEN	Sizes of opening (Slot No)	Diameter	Length
		inches	feet

61 PLUGGING & SEALING RECORD	
Depth set at - feet	Material and type (Cement grout, bentonite, etc.)
10-13	Dug Well To be Filled

71 PUMPING TEST	
Pumping test method	Pumping rate
<input type="checkbox"/> Pump <input checked="" type="checkbox"/> Bailer	15 GPM
Static level	Water level during pumping
15 feet	24 feet

LOCATION OF WELL	
In diagram below show distances of well from road and lot line. Indicate north by arrow.	
McConnell Road	800'
South Branch Road	183027

FINAL STATUS OF WELL	
<input checked="" type="checkbox"/> Water supply	<input type="checkbox"/> Abandoned, insufficient supply
<input type="checkbox"/> Observation well	<input type="checkbox"/> Abandoned, poor quality
<input type="checkbox"/> Test hole	<input type="checkbox"/> Abandoned (Other)
<input type="checkbox"/> Recharge well	<input type="checkbox"/> Dewatering
WATER USE	
<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Commercial
<input type="checkbox"/> Stock	<input type="checkbox"/> Municipal
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Public supply
<input type="checkbox"/> Industrial	<input type="checkbox"/> Cooling & air conditioning
METHOD OF CONSTRUCTION	
<input checked="" type="checkbox"/> Cable tool	<input type="checkbox"/> Air percussion
<input type="checkbox"/> Rotary (conventional)	<input type="checkbox"/> Boring
<input type="checkbox"/> Rotary (reverse)	<input type="checkbox"/> Diamond
<input type="checkbox"/> Rotary (air)	<input type="checkbox"/> Jetting

Name of Well Contractor	Well Contractor's Licence No.
Gilles Borealis Well Drilling	1414
Address	Well Technician's Licence No.
St-Albert Ont.	4-0193
Name of Well Technician	Submission date
Same	day mo 97

MINISTRY USE ONLY	
Data source	Contractor
1414	1414
Date of inspection	Inspector
Remarks	



The Ontario Water Resources Act **WATER WELL RECORD**

Mark correct box with a checkmark, where applicable.

5000

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Con. 52 R 6444

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Con. 52 R 6444

County or District Stormon		Township/Borough/City/Town/Village CORMORANT	Con block tract survey, etc. 3	Lot 7
Owner's surname D.D. Construction	First name 	Address 490 South Branch Rd	Date completed 5 day	9 month 98 year

[illegible]

41		42		43		44		45		46		47		48		49		50			
WATER RECORD																					
Water found at - feet				Kind of water																	
75				1		Fresh		3		<input type="checkbox"/> Sulphur		14									
				2		Salty		4		<input type="checkbox"/> Minerals		6									
15-18				1		Fresh		3		<input type="checkbox"/> Sulphur		19									
				2		Salty		4		<input type="checkbox"/> Minerals		6									
20-22				1		Fresh		3		<input type="checkbox"/> Sulphur		24									
				2		Salty		4		<input type="checkbox"/> Minerals		6									
25-28				1		Fresh		3		<input type="checkbox"/> Sulphur		29									
				2		Salty		4		<input type="checkbox"/> Minerals		6									
30-33				1		Fresh		3		<input type="checkbox"/> Sulphur		34									
				2		Salty		4		<input type="checkbox"/> Minerals		6									

CASING & OPEN HOLE RECORD				
Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
¹⁰⁻¹¹ $6\frac{1}{4}"$	¹² <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic	1.88	+2	¹³⁻¹⁶ 40
¹⁷⁻¹⁸ $6"$	¹⁹ <input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Open hole <input type="checkbox"/> Plastic			²⁰⁻²³ 40 83
²⁴⁻²⁵	²⁶ <input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic			²⁷⁻³⁰

SCREEN	Sizes of opening (Slot No.)	31-33	Diameter	34-38	Length	39-40
			inches		feet	
	Material and type	Depth at top of screen			41-44	30
					feet	

61		PLUGGING & SEALING RECORD	
<input type="checkbox"/> Annular space		<input type="checkbox"/> Abandonment	
Depth set at - feet		Material and type (Cement grout, bentonite, etc.)	
From	To		
10-13	14-17		
5	25		
18-21	22-25		
26-29	30-33	34	

PUMPING TEST	71 Pumping test method <input type="checkbox"/> Pump <u>ADA</u> <u>tailer</u>		Pumping rate <u>4</u> GPM		Duration of pumping <u>1</u> Hours <u>9</u> Mins	
	Static level		25 Water levels during <input type="checkbox"/> Pumping <input checked="" type="checkbox"/> Recovery			
	Water level end of pumping					
	13 21	22-24	15 minutes	30 minutes	45 minutes	60 minutes
	<u>16</u> feet	<u>83</u> feet	<u>28</u> feet	<u>24</u> feet	<u>20</u> feet	<u>16</u> feet
	If flowing give rate		38-41 Pump intake set at <u>83</u> feet		Water at end of test	
GPM				<input type="checkbox"/> Clear <input checked="" type="checkbox"/> Cloudy		
Recommended pump type <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep		Recommended pump setting <u>75</u> feet		Recommended pump rate <u>3</u> GPM		

FINAL STATUS OF WELL		
1 <input checked="" type="checkbox"/> Water supply	4 <input type="checkbox"/> Abandoned, insufficient supply	5 <input type="checkbox"/> Unfinished
2 <input type="checkbox"/> Observation well	5 <input type="checkbox"/> Abandoned, poor quality	10 <input type="checkbox"/> Replacement well
3 <input type="checkbox"/> Test hole	7 <input type="checkbox"/> Abandoned (Other)	
4 <input type="checkbox"/> Recharge well	3 <input type="checkbox"/> Dewatering	

WATER USE		
1 <input checked="" type="checkbox"/> Domestic	4 <input type="checkbox"/> Commercial	9 <input type="checkbox"/> Not used
2 <input type="checkbox"/> Stock	5 <input type="checkbox"/> Municipal	10 <input type="checkbox"/> Other
3 <input type="checkbox"/> Irrigation	6 <input type="checkbox"/> Public supply	
4 <input type="checkbox"/> Industrial	8 <input type="checkbox"/> Cooling & air conditioning	

METHOD OF CONSTRUCTION		
1 <input type="checkbox"/> Cable tool	5 <input type="checkbox"/> Air percussion	9 <input type="checkbox"/> Driving
2 <input type="checkbox"/> Rotary (conventional)	6 <input type="checkbox"/> Boring	10 <input type="checkbox"/> Digging
3 <input type="checkbox"/> Rotary (reverse)	7 <input type="checkbox"/> Diamond	11 <input type="checkbox"/> Other
4 <input type="checkbox"/> Rotary (air)	8 <input type="checkbox"/> Jetting	

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.

well

250'

140'

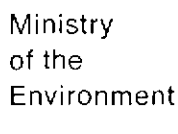
South Cornwall Centre Road

McConaill

176061

Name of Well Contractor	Well Contractor's Licence No.
Billey Bourgeois's Well Drill	14141
Address	
ST-ALBERT ont.	
Name of Well Technician	Well Technician's Licence No.
JACQUES RAYMOND	02614
Signature of Technician/Contractor	Submission date
[Signature]	5 9 96
	day mo yr

MINISTRY USE ONLY	Data source	58	Contractor	59 62	Date received	63 66	69	
			Y414		OCT 01 1996			
	Date of inspection		Inspector					
	Remarks							



WATER WELL RECORD

5803972

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2

COUNTY OR DISTRICT		TOWNSHIP, BOROUGHS, CITY, TOWN, VILLAGE		CON. BLOCK, TRACT, SURVEY, ETC.		LOT	
		Annual		4		6	
South Branch Road						DATE COMPLETED	
						48-53	
						DAY 27 MO 04 YR 93	

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
			altered well record 15025		
			piezometer 1 at 204' 3", stone to 114.07", hole plug to 106.69", stone to 105.35", piezometer 2 at 105.35", stone to 46.78', hole plug to 38.19', stone to 36.81', piezometer 3 at 36.81', stone to 20.41', hole plug to 15.03', stone to surface		

31

32

10 14 15 21 32 43 54 64 75 80

41		WATER RECORD			
WATER FOUND AT - FEET		KIND OF WATER			
10-13	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR			
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS			
		6 <input type="checkbox"/> GAS			
15-18	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR			
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS			
		6 <input type="checkbox"/> GAS			
20-23	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR			
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS			
		6 <input type="checkbox"/> GAS			
25-28	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR			
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS			
		6 <input type="checkbox"/> GAS			
30-33	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR			
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS			
		6 <input type="checkbox"/> GAS			

51 CASING & OPEN HOLE RECORD				
INSIDE DIAM INCHES	WATER AS	WALL THICKNESS INCHES	DEPTH FEET	
			FROM	TO
15 11	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input checked="" type="checkbox"/> PLASTIC		10 40	13 16
17 18	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC			20 23
24 25	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC			23 50

SCREEN	SIZE 54" OF OPENING SLOT NO. 1		31-33	DIAMETER 34-38	LENGTH 39-40
	200 mesh		1	INCHES	2.5 FEET
	MATERIAL AND TYPE nylon		DEPTH TO TOP OF SCREEN see above		41-44 FEET

61 PLUGGING & SEALING RECORD					
DEPTH SET AT FEET		MATERIAL AND TYPE		CEMENT GROUT LEAD PACKER ETC.	
1-30 M	TO				
10-13	14-17				
see above					
18-21	22-25				
26-29	30-33	80			

PUMPING TEST	71		PUMPING TEST METHOD		10	PUMPING RATE		11-14	DURATION OF PUMPING	
			1 <input checked="" type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER					GPM	15 16 17-18 HOURS MIN.	
	STATIC LEVEL		WATER LEVEL END OF PUMPING		25	WATER LEVELS DURING		1 <input type="checkbox"/> PUMPING 2 <input type="checkbox"/> RECOVERY		
	19-21		22-24			15 MINUTES 25 28 35 38		45 MINUTES 32-34		60 MINUTES 35-37
	165 m		FEET			FEET		FEET		FEET
IF FLOWING GIVE RATE		38-41		PUMP IN TAKE SET AT		FEET		WATER AT END OF TEST		42
		GPM				FEET		1 <input type="checkbox"/> CLEAR 2 <input type="checkbox"/> CLOUDY		
RECOMMENDED PUMP TYPE				RECOMMENDED PUMP SETTING		43-45		RECOMMENDED PUMPING RATE		46-49
<input type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP						FEET				GPM
50-53										


<p>34</p> <p>FINAL STATUS OF WELL</p>	<p>1 <input type="checkbox"/> WATER SUPPLY</p> <p>2 <input checked="" type="checkbox"/> OBSERVATION WELL</p> <p>3 <input type="checkbox"/> TEST HOLE</p> <p>4 <input type="checkbox"/> RECHARGE WELL</p>	<p>5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY</p> <p>6 <input type="checkbox"/> ABANDONED POOR QUALITY</p> <p>7 <input type="checkbox"/> UNFINISHED</p> <p><input type="checkbox"/> DEWATERING</p>
<p>55 56</p> <p>WATER USE</p>	<p>1 <input type="checkbox"/> DOMESTIC</p> <p>2 <input type="checkbox"/> STOCK</p> <p>3 <input type="checkbox"/> IRRIGATION</p> <p>4 <input type="checkbox"/> INDUSTRIAL</p> <p><input type="checkbox"/> OTHER</p>	<p>5 <input type="checkbox"/> COMMERCIAL</p> <p>6 <input type="checkbox"/> MUNICIPAL</p> <p>7 <input type="checkbox"/> PUBLIC SUPPLY</p> <p>8 <input type="checkbox"/> COOLING OR AIR CONDITIONING</p> <p>9 <input checked="" type="checkbox"/> NOT USED</p>
<p>57</p> <p>METHOD OF CONSTRUCTION</p>	<p>1 <input type="checkbox"/> CABLE TOOL</p> <p>2 <input type="checkbox"/> ROTARY (CONVENTIONAL)</p> <p>3 <input type="checkbox"/> ROTARY (REVERSE)</p> <p>4 <input type="checkbox"/> ROTARY (AIR)</p> <p>5 <input type="checkbox"/> AIR PERCUSSION</p>	<p>6 <input type="checkbox"/> BORING</p> <p>7 <input type="checkbox"/> DIAMOND</p> <p>8 <input type="checkbox"/> JETTING</p> <p>9 <input type="checkbox"/> DRIVING</p> <p><input type="checkbox"/> DIGGING <input checked="" type="checkbox"/> OTHER</p>

LOCATION OF WELL

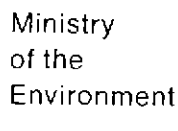
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW.

130432

DRILLERS REMARKS

CONTRACTOR	NAME OF WELL CONTRACTOR		WELL CONTRACTOR'S LICENCE NUMBER	
	Garrett Resource Corporation		6617	
	ADDRESS			
	R.R. #1 Oxford Mills KOG 150			
CONTRACTOR	NAME OF WELL TECHNICIAN		WELL TECHNICIAN'S LICENCE NUMBER	
	George Garrett		2047	
	SIGNATURE OF TECHNICIAN/CONTRACTOR		SUBMISSION DATE	
			DAY 03 MO 05 YR 95	

OFFICE USE ONLY	DATA SOURCE	58	CONTRACTOR	59-62	DATE RECEIVED	63-68	80
			6617		MAY 10 1995		
	DATE OF INSPECTION		INSPECTOR				
	REMARKS: COULD NOT LOCATE ORIGINAL W.W. RECORD. MAY 15/95. AS.						



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COUNTY OR DISTRICT										TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE										CON. BLOCK, TRACT, SURVEY, ETC.										LOT									
St. Louis										Crestwood										4										5									
										South Branch Rd.										Crestwood										DATE COMPLETED									
																														48-53									
																														DAY 27 MO 04 YR 95									

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

[illegible]

41		WATER RECORD			
WATER FOUND AT - FEET		KIND OF WATER			
10-13	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS	12		
15-18	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS	10		
20-23	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS	24		
25-28	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS	29		
30-33	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS	34		

51		CASING & OPEN HOLE RECORD		43	
INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET		13-16
			FROM	TO	
10-71	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input checked="" type="checkbox"/> PLASTIC	5-24-10	40		
13-18	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC	PVC			26-21
24-25	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC				23-30

SCREEN	SIZE: 1 OF OPENING (SLOT NO.)	31-33	DIAMETER	34-38	75	80
	200 mesh	1	INCHES	2.5	FEET	
	MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN			81-84	10
		50000000			FEET	

61	PLUGGING & SEALING RECORD	
DEPTH SET AT	FEET	MATERIAL AND TYPE CEMENT GROUT LEAD PACKER, ETC.
FROM	TO	
10-13	14-17	See above
18-21	22-25	
26-29	30-33	

PUMP TEST	PUMPING TEST METHOD		PUMPING RATE		DURATION OF PUMPING	
	1 <input type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER		GPM		15-16 HOURS 17-18 MINS	
	STATIC LEVEL		WATER LEVEL END OF PUMPING		1 <input type="checkbox"/> PUMPING 2 <input type="checkbox"/> RECOVERY	
	12-04		22-24		15 MINUTES 26-28 30 MINUTES 29-31 45 MINUTES 32-34 60 MINUTES 35-37	
	19-21		22-24		15 MINUTES 26-28 30 MINUTES 29-31 45 MINUTES 32-34 60 MINUTES 35-37	
IF FLOWING GIVE RATE		PUMP INTAKE SET AT		WATER AT END OF TEST		
GPM		FEET		FEET		
RECOMMENDED PUMP TYPE		RECOMMENDED PUMP SETTING		RECOMMENDED PUMPING RATE		
1 <input type="checkbox"/> SHALLOW 2 <input type="checkbox"/> DEEP		FEET		FEET		
60-53						

<p>FINAL STATUS OF WELL</p>	<p>54</p> <p>1 <input type="checkbox"/> WATER SUPPLY</p> <p>2 <input checked="" type="checkbox"/> OBSERVATION WELL</p> <p>3 <input type="checkbox"/> TEST HOLE</p> <p>4 <input type="checkbox"/> RECHARGE WELL</p>	<p>5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY</p> <p>6 <input type="checkbox"/> ABANDONED, POOR QUALITY</p> <p>7 <input type="checkbox"/> UNFINISHED</p> <p><input type="checkbox"/> DEWATERING</p>
<p>WATER USE</p>	<p>55-56</p> <p>1 <input type="checkbox"/> DOMESTIC</p> <p>2 <input type="checkbox"/> STOCK</p> <p>3 <input type="checkbox"/> IRRIGATION</p> <p>4 <input type="checkbox"/> INDUSTRIAL</p> <p><input type="checkbox"/> OTHER _____</p>	<p>5 <input type="checkbox"/> COMMERCIAL</p> <p>6 <input type="checkbox"/> MUNICIPAL</p> <p>7 <input type="checkbox"/> PUBLIC SUPPLY</p> <p>8 <input type="checkbox"/> COOLING OR AIR CONDITIONING</p> <p>9 <input checked="" type="checkbox"/> NOT USED</p>
<p>METHOD OF CONSTRUCTION</p>	<p>57</p> <p>1 <input type="checkbox"/> CABLE TOOL</p> <p>2 <input type="checkbox"/> ROTARY (CONVENTIONAL)</p> <p>3 <input type="checkbox"/> ROTARY (REVERSE)</p> <p>4 <input type="checkbox"/> ROTARY (AIR)</p> <p>5 <input type="checkbox"/> AIR PERCUSSION</p>	<p>6 <input type="checkbox"/> BORING</p> <p>7 <input type="checkbox"/> DIAMOND</p> <p>8 <input type="checkbox"/> JETTING</p> <p>9 <input type="checkbox"/> DRIVING</p> <p><input type="checkbox"/> DIGGING <input checked="" type="checkbox"/> OTHER _____</p>

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.

900m

600m


lot 6

lot 5

City of Cornwall

S. Branch

130429

CONTRACTOR	NAME OF WELL CONTRACTOR		WELL CONTRACTOR'S LICENCE NUMBER	
	Garrett Resource Investigations		6617	
	ADDRESS			
	RR#1 Oxford Mills Ontario K0G1S0			
CONTRACTOR	NAME OF WELL TECHNICIAN		WELL TECHNICIAN'S LICENCE NUMBER	
	George Garrett		2047	
	SIGNATURE OF TECHNICIAN/CONTRACTOR		SUBMISSION DATE	
			DAY 2 MO 05 YR 95	

OFFICE USE ONLY	DATA SOURCE	58	CONTRACTOR	59 62	DATE RECEIVED	43 68	80
	6617		MAY 10 1995				
	DATE OF INSPECTION		INSPECTOR				
	REMARKS: COULD NOT LOCATE ORIGINAL W.W. RECORD, MAY 15/95. AB.						



Ministry
of the
Environment
Ontario

WATER WELL RECORD

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COUNTY OR DISTRICT Stormont	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Cornwall	CON. BLOCK, TRACT, SURVEY, ETC. 5	LOT 5
OWNER (SURNAME FIRST) McLeod Towing Ltd	ADDRESS RR #1 Long Sault	DATE COMPLETED DAY 25 MO 10 YR 94	
ZONE 21	EASTING 12	NORTHING 17	ELEVATION 25

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Hardpan		Packed	0	15
Brown	Clay		Dense	15	39
Grey	Hardpan		Packed	39	42
Grey	Limestone		Layered	42	120

31	32
----	----

41 WATER RECORD	
WATER FOUND AT - FEET 115	KIND OF WATER 1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS

51 CASING & OPEN HOLE RECORD	
INSIDE DIAM. INCHES 6 1/4	MATERIAL 1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC
WALL THICKNESS INCHES 188	DEPTH - FEET FROM 0 TO 42

SCREEN	SIZE 5" OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

61 PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET FROM 0 TO 42	MATERIAL AND TYPE Clay (Benseal)

71 PUMPING TEST METHOD 1 <input checked="" type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER	10 PUMPING RATE 6 GPM	14-16 DURATION OF PUMPING 15-16 HOURS 00 17-18 MINS
STATIC LEVEL 15 FEET	WATER LEVEL END OF PUMPING 170 FEET	WATER LEVELS DURING 15 MINUTES 28 30 MINUTES 44 45 MINUTES 64 60 MINUTES 87
IF FLOWING, GIVE RATE GPM	PUMP INTAKE SET AT 120 FEET	WATER AT END OF TEST 1 <input type="checkbox"/> CLEAR 2 <input checked="" type="checkbox"/> CLOUDY
RECOMMENDED PUMP TYPE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP	RECOMMENDED PUMP SETTING 100 FEET	RECOMMENDED PUMPING RATE 6 GPM

FINAL STATUS OF WELL 1 <input checked="" type="checkbox"/> WATER SUPPLY 2 <input type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL	5 <input type="checkbox"/> ABANDONED - INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED - POOR QUALITY 7 <input type="checkbox"/> UNFINISHED 8 <input type="checkbox"/> DEWATERING
WATER USE 1 <input checked="" type="checkbox"/> DOMESTIC 2 <input type="checkbox"/> STOCK 3 <input type="checkbox"/> IRRIGATION 4 <input type="checkbox"/> INDUSTRIAL 5 <input type="checkbox"/> OTHER	6 <input type="checkbox"/> COMMERCIAL 7 <input type="checkbox"/> MUNICIPAL 8 <input type="checkbox"/> PUBLIC SUPPLY 9 <input type="checkbox"/> COOLING OR AIR CONDITIONING 10 <input type="checkbox"/> NOT USED
METHOD OF CONSTRUCTION 1 <input type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input checked="" type="checkbox"/> ROTARY (AIR) 5 <input type="checkbox"/> AIR PERCUSSION	6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING 10 <input type="checkbox"/> DIGGING <input type="checkbox"/> OTHER

LOCATION OF WELL	
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.	
DRILLER'S REMARKS 150262	

CONTRACTOR NAME OF WELL CONTRACTOR Roy LBR Ltd	WELL CONTRACTOR'S LICENCE NUMBER 4609
ADDRESS Cornwall	
NAME OF WELL TECHNICIAN Roger Roy	WELL TECHNICIAN'S LICENCE NUMBER 1-0330
SIGNATURE OF TECHNICIAN/CONTRACTOR	SUBMISSION DATE DAY _____ MO _____ YR _____

OFFICE USE ONLY	DATA SOURCE DATE OF INSPECTION	CONTRACTOR 4609	DATE RECEIVED MAR 02 1995	INSPECTOR
REMARKS				



Ministry
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Ontario

#4

The Ontario Water Resources Act

WATER WELL RECORD

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COUNTY OR DISTRICT	TOWNSHIP BOROUGH CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT
11	11	4	6
DATE COMPLETED			48-53
DAY 15			MO 11
YEAR 94			

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Topsoil		Loose	0	2
Brown	Hardpan	Stones	Packed	2	17
Grey	Limestone		Layered	17	200

31	32
----	----

41 WATER RECORD	
WATER FOUND AT - FEET	KIND OF WATER
10-13	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
15-18	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
20-23	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
25-28	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
30-33	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS

51 CASING & OPEN HOLE RECORD			
INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
10-11	1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	188	0 20
17-18	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	6	20 200

52-53 OF OPENING (SLOT NO.)	31-33 DIAMETER	34-38 LENGTH	39-40
	INCHES	FEET	
MATERIAL AND TYPE		DEPTH TO TOP OF SCREEN	41-44 30
		FEET	

61 PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	20 Clay (Benseal)
18-21	
22-25	
26-29	
30-33	

71 PUMPING TEST	PUMPING TEST METHOD	10 PUMPING RATE	11-14 DURATION OF PUMPING
	1 <input type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER	GPM	15-16 17-18
	STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING
	19-21	22-24	25-28 29-31 32-34 35-37
	FEET	FEET	FEET
IF FLOWING, GIVE RATE	PUMP INTAKE SET	WATER AT END OF TEST	42
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE	46-49
<input type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP			

72 FINAL STATUS OF WELL	1 <input type="checkbox"/> WATER SUPPLY 2 <input checked="" type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL	5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED, POOR QUALITY 7 <input type="checkbox"/> UNFINISHED <input type="checkbox"/> DEWATERING	
	WATER USE	8 <input type="checkbox"/> DOMESTIC 9 <input type="checkbox"/> STOCK 10 <input type="checkbox"/> IRRIGATION 11 <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> OTHER	12 <input type="checkbox"/> COMMERCIAL 13 <input type="checkbox"/> MUNICIPAL 14 <input type="checkbox"/> PUBLIC SUPPLY 15 <input type="checkbox"/> COOLING OR AIR CONDITIONING <input checked="" type="checkbox"/> NOT USED
	METHOD OF CONSTRUCTION	1 <input type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input checked="" type="checkbox"/> ROTARY (AIR) 5 <input type="checkbox"/> AIR PERCUSSION	6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING <input type="checkbox"/> DIGGING <input type="checkbox"/> OTHER

LOCATION OF WELL	
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.	
150258	

CONTRACTOR	NAME OF WELL CONTRACTOR	WELL CONTRACTOR'S LICENCE NUMBER	
	ADDRESS		
	NAME OF WELL TECHNICIAN	WELL TECHNICIAN'S LICENCE NUMBER	
	SIGNATURE OF TECHNICIAN/CONTRACTOR	SUBMISSION DATE	
DAY		MO	YR.

OFFICE USE ONLY	DATA SOURCE	58 CONTRACTOR	59-62 DATE RECEIVED	63-68
	DATE OF INSPECTION	INSPECTOR		
	REMARKS			

5803943

MUNICIP

58001

COR.

CON

04

1. PRINT ONLY IN SPACES PROVIDED

2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11

COUNTY OR DISTRICT: [redacted] TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: [redacted] CON. BLOCK, TRACT, SURVEY, ETC.: 4 LOT: 6 DATE COMPLETED: 15 11 94

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Hardpan	Stones	Packed	0	13
Grey	Hardpan	Gravel	Packed	13	37
Grey	Limestone		Layered	37	220

31 32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS
15-18	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS
20-23	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS
25-28	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS
30-33	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
10-11	1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	188	0 42
17-18	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC		42 220
26-25	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC		

SCREEN

SIZE, S4 OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER, ETC.
10-13	2 42	Clay (Benseal)
18-25		
26-29		

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 <input type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER	GPM	15-18 HOURS 17-18 MINS
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING
19-21	22-24	15 MINUTES 20-28 30 MINUTES 29-31 45 MINUTES 32-34 60 MINUTES 35-37
FEET	FEET	FEET
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	FEET
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
<input type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP		GPM

FINAL STATUS OF WELL

1 <input type="checkbox"/> WATER SUPPLY	5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY
2 <input checked="" type="checkbox"/> OBSERVATION WELL	6 <input type="checkbox"/> ABANDONED, POOR QUALITY
3 <input type="checkbox"/> TEST HOLE	7 <input type="checkbox"/> UNFINISHED
4 <input type="checkbox"/> RECHARGE WELL	8 <input type="checkbox"/> DEWATERING

WATER USE

1 <input type="checkbox"/> DOMESTIC	5 <input type="checkbox"/> COMMERCIAL
2 <input type="checkbox"/> STOCK	6 <input type="checkbox"/> MUNICIPAL
3 <input type="checkbox"/> IRRIGATION	7 <input type="checkbox"/> PUBLIC SUPPLY
4 <input type="checkbox"/> INDUSTRIAL	8 <input type="checkbox"/> COOLING OR AIR CONDITIONING
<input type="checkbox"/> OTHER	9 <input checked="" type="checkbox"/> NOT USED

METHOD OF CONSTRUCTION

1 <input type="checkbox"/> CABLE TOOL	6 <input type="checkbox"/> BORING
2 <input type="checkbox"/> ROTARY (CONVENTIONAL)	7 <input type="checkbox"/> DIAMOND
3 <input type="checkbox"/> ROTARY (REVERSE)	8 <input type="checkbox"/> JETTING
4 <input checked="" type="checkbox"/> ROTARY (AIR)	9 <input type="checkbox"/> DRIVING
5 <input type="checkbox"/> AIR PERCUSSION	<input type="checkbox"/> DIGGING <input type="checkbox"/> OTHER

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.

M'Connell Ave

1000

1/2 mile

South Branch Rd

150259

CONTRACTOR

NAME OF WELL CONTRACTOR: Roy's LBR Ltd

WELL CONTRACTOR'S LICENCE NUMBER: 4609

ADDRESS: Cornwall

NAME OF WELL TECHNICIAN: Roger Roy

WELL TECHNICIAN'S LICENCE NUMBER: 7-0330

SIGNATURE OF TECHNICIAN/CONTRACTOR

SUBMISSION DATE

OFFICE USE ONLY

DATA SOURCE: 4609

DATE OF INSPECTION: MAR 02 1995

INSPECTOR

REMARKS

The Ontario Water Resources Act
WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11

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104

COUNTY OR DISTRICT Simcoe	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Cornwall	CON. BLOCK, TRACT, SURVEY, ETC. 4	LOT 5
Address South Branch Rd Cornwall			DATE COMPLETED DAY 14 MO 11 YR 94

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Topsoil		Loose	0	2
Brown	Clay		Dense	2	7
Brown	Hardpan		Packed	7	15
Grey	Limestone		Layered	15	200

31	32
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41 WATER RECORD	
WATER FOUND AT - FEET	KIND OF WATER
10-13	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
15-18	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
20-23	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
25-28	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS
30-33	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS

51 CASING & OPEN HOLE RECORD			
INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
10-11	1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	188	0 20
12-18	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	6	20 200
20-23	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC		
25-28	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC		

61 PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET	MATERIAL AND TYPE
FROM TO	
10-13	0 20 Clay (Benseal)
15-18	
20-23	
25-28	

71 PUMPING TEST	PUMPING TEST METHOD 1 <input type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILEY	PUMPING RATE GPM	DURATION OF PUMPING HOURS
	STATIC LEVEL FEET	WATER LEVEL END OF PUMPING FEET	WATER LEVELS DURING 15 MINUTES 28-31 30 MINUTES 32-34 45 MINUTES 35-37 60 MINUTES 38-41
	IF FLOWING, GIVE RATE GPM	PUMP INTAKE SET AT FEET	WATER AT END OF TEST FEET
	RECOMMENDED PUMP TYPE <input type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP	RECOMMENDED PUMP SETTING FEET	RECOMMENDED PUMPING RATE GPM

FINAL STATUS OF WELL	1 <input checked="" type="checkbox"/> WATER SUPPLY 2 <input checked="" type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL	5 <input type="checkbox"/> ABANDONED - INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED - POOR QUALITY 7 <input type="checkbox"/> UNFINISHED 8 <input type="checkbox"/> DEWATERING
	1 <input type="checkbox"/> DOMESTIC 2 <input type="checkbox"/> STOCK 3 <input type="checkbox"/> IRRIGATION 4 <input type="checkbox"/> INDUSTRIAL 5 <input type="checkbox"/> OTHER	5 <input type="checkbox"/> COMMERCIAL 6 <input type="checkbox"/> MUNICIPAL 7 <input type="checkbox"/> PUBLIC SUPPLY 8 <input type="checkbox"/> COOLING OR AIR CONDITIONING 9 <input checked="" type="checkbox"/> NOT USED
WATER USE		
METHOD OF CONSTRUCTION	1 <input type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input checked="" type="checkbox"/> ROTARY (AIR) 5 <input type="checkbox"/> AIR PERCUSSION	6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING 10 <input type="checkbox"/> DIGGING <input type="checkbox"/> OTHER

LOCATION OF WELL	
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.	
150264	

CONTRACTOR	NAME OF WELL CONTRACTOR Roy's LBR Ltd	WELL CONTRACTOR'S LICENCE NUMBER 4609
	ADDRESS Cornwall	
	NAME OF WELL TECHNICIAN Roger Roy	WELL TECHNICIAN'S LICENCE NUMBER 1-0330
	SIGNATURE OF TECHNICIAN/CONTRACTOR	SUBMISSION DATE DAY NO. YR.

OFFICE USE ONLY	DATE SOURCE 4609	DATE RECEIVED MAR 02 1995
	DATE OF INSPECTION	INSPECTOR
	REMARKS	

1. PRINT ONLY IN SPACES PROVIDED 2. CHECK CORRECT BOX WHERE APPLICABLE 11 5803875 580011 1001 104

COUNTY OR DISTRICT TOWNSHIP, BUROUGH, CITY, TOWN, VILLAGE LOT 25-27 4 7 309 PITT CORN. DATE COMPLETED 46-53 DAY 5 MO 4 YR 94

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	FILL	STONES	LOOSE	0	5
" "	HARD PAN	" "	PACKED	5	10
GREY	TILL	STONES	PACKED	10	56
" "			LAYERED	56	75

31 32

41 WATER RECORD 51 CASING & OPEN HOLE RECORD 61 PLUGGING & SEALING RECORD

71 PUMPING TEST

FINAL STATUS OF WELL WATER USE METHOD OF CONSTRUCTION

LOCATION OF WELL 138538

CONTRACTOR Roy's LBR LTD CORN. 4609 AUG 24 1994



Ontario

Ministry
of the
Environment

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 5803778 58001 104

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, FRACT., SURVEY, ETC.	LOT
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET
				FROM TO
Grey	Gravel	(Fill)	Packed	0 7
Grey	Hardpan		Packed	7 37
Grey	Limestone		Layered	37 80

31	32
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41	WATER RECORD
WATER FOUND AT - FEET	KIND OF WATER
76	1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS
15-18	2 <input type="checkbox"/> SALTY 6 <input type="checkbox"/> GAS
20-23	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS
25-28	2 <input type="checkbox"/> SALTY 6 <input type="checkbox"/> GAS
30-33	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS
	2 <input type="checkbox"/> SALTY 6 <input type="checkbox"/> GAS

51	CASING & OPEN HOLE RECORD		
INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
6 1/4	1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	188	0 37
6	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC		37 80

SCREEN	SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
	MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	FEET

61	PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET	MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER, ETC.
2	37	Clay (Bentonite)

71	PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 <input checked="" type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER	15 GPM	1 15-16 00 17-18	
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	1 <input type="checkbox"/> PUMPING 2 <input checked="" type="checkbox"/> RECOVERY
13 FEET	40 FEET	15 FEET 14 FEET 13 1/2 FEET 13 FEET	
IF FLOWING GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST	1 <input type="checkbox"/> CLEAR 2 <input checked="" type="checkbox"/> CLOUDY
	80 GPM		
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE	
<input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP	70 FEET	15 GPM	

FINAL STATUS OF WELL	1 <input checked="" type="checkbox"/> WATER SUPPLY 2 <input type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL	5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED, POOR QUALITY 7 <input type="checkbox"/> UNFINISHED 8 <input type="checkbox"/> DEWATERING
WATER USE	1 <input type="checkbox"/> DOMESTIC 2 <input type="checkbox"/> STOCK 3 <input type="checkbox"/> IRRIGATION 4 <input type="checkbox"/> INDUSTRIAL 5 <input type="checkbox"/> OTHER	6 <input checked="" type="checkbox"/> COMMERCIAL 7 <input type="checkbox"/> MUNICIPAL 8 <input type="checkbox"/> PUBLIC SUPPLY 9 <input type="checkbox"/> COOLING OR AIR CONDITIONING 10 <input type="checkbox"/> NOT USED
METHOD OF CONSTRUCTION	1 <input type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input checked="" type="checkbox"/> ROTARY (AIR) 5 <input type="checkbox"/> AIR PERCUSSION	6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING 10 <input type="checkbox"/> DIGGING 11 <input type="checkbox"/> OTHER

LOCATION OF WELL
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.
McConnell Ave
1 mile
1/4 mile
South Branch Rd
Boundary Rd
130212

CONTRACTOR	NAME OF WELL CONTRACTOR	WELL CONTRACTOR'S LICENCE NUMBER
	Roy's LBR Ltd	4609
	ADDRESS	
	Cornwall	
	NAME OF WELL TECHNICIAN	WELL TECHNICIAN'S LICENCE NUMBER
	Roger Roy	7-0330
	SIGNATURE OF TECHNICIAN/CONTRACTOR	SUBMISSION DATE
		DAY NO. YR.

OFFICE USE ONLY	DATE OF INSPECTION	CONTRACTOR	DATE RECEIVED
		4609	OCT 04 1993
	REMARKS		

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11

5803706

MUNICIPALITY
58001

CON. NO.
CON.

04

COUNTY OR DISTRICT 1 2 11	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE 3 4 Wawa	CON. BLOCK TRACT, SURVEY ETC. 5 6 11	LOT 7 8 7
DATE COMPLETED 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 DAY 02 MO 06 YR 93			

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Hardpan	Boulders	Hard	0	10
Grey	Hardpan	Boulders - Gravel	Hard	10	58
Grey	limestone	Rock	porous	58	75

31	32
----	----

41 WATER RECORD	
WATER FOUND AT - FEET 10-13 68	KIND OF WATER 1 <input checked="" type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS

51 CASING & OPEN HOLE RECORD	
INSIDE DIAM. INCHES 10-11 6 1/4"	MATERIAL 1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC
DEPTH - FEET FROM 0 TO 13-16 58	20-23 58

SIZE OF OPENING (SLOT NO.) 31-33 1	DIAMETER INCHES 34-36 1	LENGTH FEET 37-40 1
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61 PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET FROM 11-13 11	MATERIAL AND TYPE 14-17 cement grout

71 PUMPING TEST	
PUMPING TEST METHOD 1 <input checked="" type="checkbox"/> AIR 2 <input type="checkbox"/> BAILER	PUMPING RATE 11-14 40 GPM
STATIC LEVEL 15-18 18 FEET	WATER LEVELS DURING 19-21 75 FEET
IF FLOWING GIVE RATE 22-24 18 FEET	PUMP INTAKE SET AT 25-28 75 FEET
RECOMMENDED PUMP TYPE 1 <input type="checkbox"/> SHALLOW 2 <input checked="" type="checkbox"/> DEEP	RECOMMENDED PUMP SETTING 29-31 50 FEET

LOCATION OF WELL	
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.	
127050	

FINAL STATUS OF WELL	
1 <input checked="" type="checkbox"/> WATER SUPPLY 2 <input type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL 5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED, POOR QUALITY 7 <input type="checkbox"/> UNFINISHED 8 <input type="checkbox"/> DEWATERING	
WATER USE	
1 <input checked="" type="checkbox"/> DOMESTIC 2 <input type="checkbox"/> STOCK 3 <input type="checkbox"/> IRRIGATION 4 <input type="checkbox"/> INDUSTRIAL 5 <input type="checkbox"/> OTHER 6 <input type="checkbox"/> COMMERCIAL 7 <input type="checkbox"/> MUNICIPAL 8 <input type="checkbox"/> PUBLIC SUPPLY 9 <input type="checkbox"/> COOLING OR AIR CONDITIONING 10 <input type="checkbox"/> NOT USED	
METHOD OF CONSTRUCTION	
1 <input type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input checked="" type="checkbox"/> ROTARY (AIR) 5 <input type="checkbox"/> AIR PERCUSSION 6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING 10 <input type="checkbox"/> DIGGING 11 <input type="checkbox"/> OTHER	

CONTRACTOR	
NAME OF WELL CONTRACTOR Gilles Bourgeois Well Drilling	
WELL CONTRACTOR'S LICENCE NUMBER 1414	
ADDRESS St. Albert Ont.	
NAME OF WELL TECHNICIAN Jacques Raymond	
WELL TECHNICIAN'S LICENCE NUMBER 0264	
SIGNATURE OF TECHNICIAN/CONTRACTOR	
SUBMISSION DATE DAY 02 MO 06 YR 93	

OFFICE USE ONLY	
DATE RECEIVED 1414 JUN 09 1993	
DATE OF INSPECTION	
INSPECTOR	
REMARKS	



Ministry
of the
Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

5803683

MUNICIPALITY

58001

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05

1. PRINT ONLY IN SPACES PROVIDED

2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11

COUNTY OR DISTRICT

TOWNSHIP BOROUGH CITY TOWN VILLAGE

CON. BLOCK TRACT SURVEY ETC

LOT 23-27

Handwritten: *Small*
Handwritten: *5 Plan 398*
Handwritten: *9*
Handwritten: *28 MO 12 YR 92*

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Hardpan	Boulders	Hard	0	10
Grey	Hardpan	"	"	10	55
Grey	Gravel	"	Loose	55	60
Grey	Limestone Rock		Hard	60	70

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER		
65	1 <input checked="" type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERALS
	2 <input type="checkbox"/> SALTY	5 <input type="checkbox"/> GAS	6 <input type="checkbox"/>

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
6 1/4"	1 <input checked="" type="checkbox"/> STEEL	1.88	0	60
	2 <input type="checkbox"/> GALVANIZED			
	3 <input type="checkbox"/> CONCRETE			
	4 <input type="checkbox"/> OPEN HOLE			
	5 <input type="checkbox"/> PLASTIC			

SCREEN

SIZES OF OPENING - SLOT NO. 1	DIAMETER INCHES	LENGTH FEET
	31-33	34-36

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER, ETC.
5	25 Cent grout	

71 PUMPING TEST

1 <input checked="" type="checkbox"/> PUMP	2 <input type="checkbox"/> BAILER	5	15-16	17-18
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	1 <input type="checkbox"/> PUMPING	2 <input checked="" type="checkbox"/> RECOVERY
25	70	15 MINUTES 40	30 MINUTES 50	45 MINUTES 60
		60 MINUTES 70		

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW.

Handwritten: *Headline Road*
Handwritten: *75'*
Handwritten: *1 mile by car*
Handwritten: *Highway 138*
Handwritten: *N*

FINAL STATUS OF WELL

1 <input type="checkbox"/> WATER SUPPLY	5 <input type="checkbox"/> ABANDONED INSUFFICIENT SUPPLY
2 <input type="checkbox"/> OBSERVATION WELL	6 <input type="checkbox"/> ABANDONED POOR QUALITY
3 <input type="checkbox"/> TEST HOLE	7 <input type="checkbox"/> UNFINISHED
4 <input type="checkbox"/> RECHARGE WELL	8 <input type="checkbox"/> DEWATERING

WATER USE

1 <input checked="" type="checkbox"/> DOMESTIC	5 <input type="checkbox"/> COMMERCIAL
2 <input type="checkbox"/> STOCK	6 <input type="checkbox"/> MUNICIPAL
3 <input type="checkbox"/> IRRIGATION	7 <input type="checkbox"/> PUBLIC SUPPLY
4 <input type="checkbox"/> INDUSTRIAL	8 <input type="checkbox"/> COOLING OR AIR CONDITIONING
9 <input type="checkbox"/> OTHER	10 <input type="checkbox"/> NOT USED

METHOD OF CONSTRUCTION

1 <input type="checkbox"/> CABLE TOOL	5 <input type="checkbox"/> BORING
2 <input type="checkbox"/> ROTARY (CONVENTIONAL)	6 <input type="checkbox"/> DIAMOND
3 <input type="checkbox"/> ROTARY (REVERSE)	7 <input type="checkbox"/> JETTING
4 <input checked="" type="checkbox"/> ROTARY (AIR)	8 <input type="checkbox"/> DRIVING
5 <input type="checkbox"/> AIR PERCUSSION	9 <input type="checkbox"/> DIGGING
	10 <input type="checkbox"/> OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: *Gilles Bourgeois Nll Dril*

WELL CONTRACTOR'S LICENCE NUMBER: *1414*

ADDRESS: *ST-ALBERT OUT*

NAME OF WELL TECHNICIAN: *J. Raymond*

WELL TECHNICIAN'S LICENCE NUMBER: *0264*

SIGNATURE OF TECHNICIAN/CONTRACTOR: *[Signature]*

SUBMISSION DATE: *DAY 28 MO 12 YR 92*

OFFICE USE ONLY

DATA SOURCE: *1414*

CONTRACTOR: *1414*

DATE RECEIVED: *JAN 19 1993*

DATE OF INSPECTION:

INSPECTOR:

REMARKS:



Ontario

Ministry
of the
Environment

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED

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5803410

MUNICIPALITY
58001

CON. *P4 95*

COUNTY OR DISTRICT <i>Simcoe</i>	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE <i>Cornwall</i>	CON. BLOCK, TRACT, SURVEY, ETC. <i>5</i>	LOT <i>5</i>
DATE COMPLETED DAY <i>5</i> MO <i>July</i> YR <i>91</i>			
ELEVATION <i>Cornwall</i>			

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
<i>brown</i>	<i>fill</i>		<i>Hard</i>	<i>0</i>	<i>8</i>
<i>grey</i>	<i>fill</i>		<i>Hard</i>	<i>8</i>	<i>56</i>
<i>black</i>	<i>rock</i>		<i>Hard</i>	<i>56</i>	<i>70</i>

31	32
----	----

41 - WATER RECORD	
WATER FOUND AT - FEET	KIND OF WATER
<i>60</i>	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY <input type="checkbox"/> SULPHUR <input type="checkbox"/> MINERALS <input type="checkbox"/> GAS
<i>15-18</i>	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY <input type="checkbox"/> SULPHUR <input type="checkbox"/> MINERALS <input type="checkbox"/> GAS
<i>20-23</i>	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY <input type="checkbox"/> SULPHUR <input type="checkbox"/> MINERALS <input type="checkbox"/> GAS
<i>25-28</i>	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY <input type="checkbox"/> SULPHUR <input type="checkbox"/> MINERALS <input type="checkbox"/> GAS
<i>30-33</i>	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY <input type="checkbox"/> SULPHUR <input type="checkbox"/> MINERALS <input type="checkbox"/> GAS

51 - CASING & OPEN HOLE RECORD			
INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
<i>64</i>	<input checked="" type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC	<i>188</i>	<i>0 56</i>
<i>64</i>	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC		<i>56 70</i>
	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC		

SCREEN	SIZES OF OPENING (SLOT NOT)	DIAMETER	LENGTH
		<i>0.25</i>	<i>100</i>

61 - PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET	MATERIAL AND TYPE
<i>0.25</i>	<i>cemt</i>

71 - PUMPING TEST	PUMPING TEST METHOD <input checked="" type="checkbox"/> PUMP <input type="checkbox"/> BAILER	PUMPING RATE <i>7</i> GPM	DURATION OF PUMPING <i>1</i> HOURS <i>0</i> MINS
STATIC LEVEL <i>20</i> FEET	WATER LEVEL END OF PUMPING <i>55</i> FEET	WATER LEVELS DURING <i>35</i> FEET	<i>45</i> FEET <i>55</i> FEET <i>55</i> FEET
IF FLOWING GIVE RATE	PUMP INTAKE SET AT <i>60</i> FEET	WATER AT END OF TEST <i>5</i> GPM	

LOCATION OF WELL	
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW.	
<i>North</i> <i>175'</i>	
<i>Headline Rd</i> <i>1 mil</i>	
107912	

FINAL STATUS OF WELL	<input type="checkbox"/> WATER SUPPLY <input type="checkbox"/> OBSERVATION WELL <input type="checkbox"/> TEST HOLE <input type="checkbox"/> RECHARGE WELL	<input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY <input type="checkbox"/> ABANDONED, POOR QUALITY <input type="checkbox"/> UNFINISHED <input type="checkbox"/> DEWATERING
WATER USE	<input type="checkbox"/> DOMESTIC <input type="checkbox"/> STOCK <input type="checkbox"/> IRRIGATION <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> OTHER	<input type="checkbox"/> COMMERCIAL <input type="checkbox"/> MUNICIPAL <input type="checkbox"/> PUBLIC SUPPLY <input type="checkbox"/> COOLING OR AIR CONDITIONING <input type="checkbox"/> NOT USED
METHOD OF CONSTRUCTION	<input type="checkbox"/> CABLE TOOL <input type="checkbox"/> ROTARY (CONVENTIONAL) <input type="checkbox"/> ROTARY (REVERSE) <input checked="" type="checkbox"/> ROTARY (AIR) <input type="checkbox"/> AIR PERCUSSION	<input type="checkbox"/> BORING <input type="checkbox"/> DIAMOND <input type="checkbox"/> JETTING <input type="checkbox"/> DRIVING <input type="checkbox"/> DIGGING <input type="checkbox"/> OTHER

CONTRACTOR	NAME OF WELL CONTRACTOR <i>Gilles Bourgeois</i>	WELL CONTRACTOR'S LICENCE NUMBER <i>1414</i>
	ADDRESS <i>57 Alber St</i>	
	NAME OF WELL TECHNICIAN <i>Stane</i>	WELL TECHNICIAN'S LICENCE NUMBER
	SIGNATURE OF TECHNICIAN/CONTRACTOR <i>Gilles Bourgeois</i>	SUBMISSION DATE <i>5 July 91</i>

OFFICE USE ONLY	DATA SOURCE <i>1414</i>	CONTRACTOR <i>1414</i>	DATE RECEIVED <i>JUL 15 1991</i>
	DATE OF INSPECTION	INSPECTOR	
	REMARKS		



Ministry
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Environment

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED

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5803275

MUNICIP
58001

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CON

145

COUNTY OR DISTRICT

TOWNSHIP BOROUGH, CITY, TOWN VILLAGE

CON BLOCK TRACT SURVEY ETC

LOT 25-27

DATE COMPLETED 48-53

DAY 21 MO Nov YR 19

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

[illegible]

31

32

WATER RECORD

WATER FOUND AT - FEET		KIND OF WATER			
58	10-15	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	1A	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS		
	15-18	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	19	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		
	20-23	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	24	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		
	25-28	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	29	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		
	30-33	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	34	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		

CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
10-11 6 1/4	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	1.88	0	42
17-18 6 7/8	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC		42	60
26-25	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC			

PLUGGING & SEALING RECORD

DEPTH SET AT FEET		MATERIAL AND TYPE	
FROM	TO	(CEMENT GROUT LEAD PACKER, ETC.)	
0	10-13	20	14-17
	18-21		22-25
	26-29	30-33	34

PUMPING TEST

71	PUMPING TEST METHOD		10	PUMPING RATE		11-14	DURATION OF PUMPING	
	1 <input checked="" type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER			8		13-16 GPM HOURS		17-18 MINS
	STATIC LEVEL	WATER LEVEL END OF PUMPING	25	WATER LEVELS DURING				1 <input checked="" type="checkbox"/> PUMPING 2 <input type="checkbox"/> RECOVERY
	19-21	22-24	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES		
	5 FEET	48 FEET	35 FEET	48 FEET	48 FEET	48 FEET		
IF FLOWING GIVE RATE		30-41	PUMP INTAKE SET AT		WATER AT END OF TEST			
		GPM			FEET			
RECOMMENDED PUMP TYPE			RECOMMENDED PUMP SETTING		A3-45	RECOMMENDED PUMPING RATE		46-49
<input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP			48		FEET	8		GPM
50-53								

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW.

Hand-drawn map showing a road layout. A horizontal line is labeled "Headline Rd". Above it, an arrow points up to the word "north". To the right, a vertical line is labeled "well" at the top and "200'" with a tick mark. Below the horizontal line, a vertical line is labeled "Mc Garry Rd" and a horizontal line segment is labeled "5/8 mile" with an arrow pointing right.

DRILLERS REMARKS

STATUS
OF WELL

1 <input checked="" type="checkbox"/> WATER SUPPLY	5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY
2 <input type="checkbox"/> OBSERVATION WELL	6 <input type="checkbox"/> ABANDONED POOR QUALITY
3 <input type="checkbox"/> TEST HOLE	7 <input type="checkbox"/> UNFINISHED
4 <input type="checkbox"/> RECHARGE WELL	<input type="checkbox"/> DEWATERING

WATER
USE

1 <input checked="" type="checkbox"/> DOMESTIC	5 <input type="checkbox"/> COMMERCIAL
2 <input type="checkbox"/> STOCK	6 <input type="checkbox"/> MUNICIPAL
3 <input type="checkbox"/> IRRIGATION	7 <input type="checkbox"/> PUBLIC SUPPLY
4 <input type="checkbox"/> INDUSTRIAL	8 <input type="checkbox"/> COOLING OR AIR CONDITIONING
<input type="checkbox"/> OTHER	9 <input type="checkbox"/> NOT USED

**METHOD
OF
CONSTRUCTION**

1 ☐ CABLE TOOL
2 ☐ ROTARY (CONVENTIONAL)
3 ☐ ROTARY (REVERSE)
4 ☒ ROTARY (AIR)
5 ☐ AIR PERCUSSION
6 ☐ BORING
7 ☐ DIAMOND
8 ☐ JETTING
9 ☐ DRIVING
10 ☐ DIGGING ☐ OTHER

CONTRACTOR

CONTRACTOR	NAME OF WELL CONTRACTOR	WELL CONTRACTOR'S LICENCE NUMBER
	Gilles Bourgeois	1414
	ADDRESS	
	St A 16 th et	
	NAME OF WELL TECHNICIAN	WELL TECHNICIAN'S LICENCE NUMBER
	SA me	
	SIGNATURE OF TECHNICIAN/CONTRACTOR	SUBMISSION DATE
	Gilles Bourgeois	DAY 21 MO Nov YR 98

OFFICE USE ONLY

DATA SOURCE	58 1414	CONTRACTOR 59 62	DATE RECEIVED NOV 28 1990	63-68 80
DATE OF INSPECTION		INSPECTOR		
REMARKS				



The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED

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COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT
St. [REDACTED]	Paranwall	4	W 1/2
RR#1 Long Sanit		DATE COMPLETED	AS-53
		DAY 17	MO 11
		YR 90	
HING	RC	ELEVATION	RC
BASIN CODE		II	III

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

[illegible]

31

32

WATER RECORD

WATER FOUND AT - FEET		KIND OF WATER			
10-13 55	1 <input checked="" type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	14		
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS			
15-18	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	19		
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS			
20-23	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	24		
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS			
25-28	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	29		
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS			
30-33	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	34		
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS			

CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
10-11	<input checked="" type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC	12		13-16
17-18	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC	19		20-23
24-25	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC	26		27-30

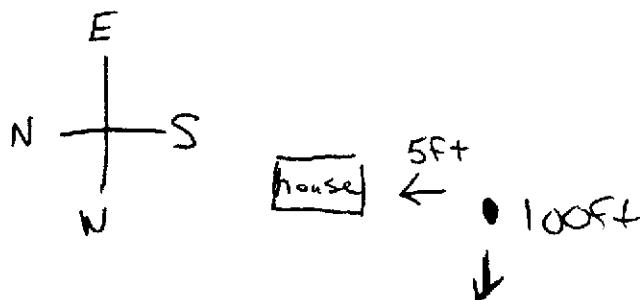
PLUGGING & SEALING RECORD

DEPTH SET AT - FEET		MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER ETC.
FROM	TO		
10-12	14-17		
18-21	22-25		
26-29	30-33	NO	

PUMPING TEST	PUMPING TEST METHOD		10	PUMPING RATE		11-14	DURATION OF PUMPING	
	1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> BAILER					1	15-16 HOURS	17-18 MINS
	STATIC LEVEL	WATER LEVEL END OF PUMPING	25	WATER LEVELS DURING		1 <input checked="" type="checkbox"/> PUMPING		
	19-21	22-24		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES	
	5 FEET	30 FEET		11 FEET	17 FEET	23 FEET	30 FEET	
IF FLOWING GIVE RATE		38-41	PUMP INTAKE SET AT			WATER AT END OF TEST		42
		GPM			FEET	1 <input checked="" type="checkbox"/> CLEAR 2 <input type="checkbox"/> CLOUDY		
RECOMMENDED PUMP TYPE			RECOMMENDED PUMP SETTING		43-45	RECOMMENDED PUMP RATE		46-49
<input type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP					FEET			GPM
50-53								

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.

**FINAL
STATUS
OF WELL**

- 1 ☒ WATER SUPPLY 5 ☐ ABANDONED, INSUFFICIENT SUPPLY
2 ☐ OBSERVATION WELL 6 ☐ ABANDONED POOR QUALITY
3 ☐ TEST HOLE 7 ☐ UNFINISHED
4 ☐ RECHARGE WELL ☐ DEWATERING

WATER USE

- 1 ☒ DOMESTIC 5 ☐ COMMERCIAL
2 ☐ STOCK 6 ☐ MUNICIPAL
3 ☐ IRRIGATION 7 ☐ PUBLIC SUPPLY
4 ☐ INDUSTRIAL 8 ☐ COOLING OR AIR CONDITIONING
9 ☐ OTHER 9 ☐ NOT USED

**METHOD
OF
CONSTRUCTION**

- | | | | |
|---|--|---|---|
| 1 | <input checked="" type="checkbox"/> CABLE TOOL | 6 | <input type="checkbox"/> BORING |
| 2 | <input type="checkbox"/> ROTARY (CONVENTIONAL) | 7 | <input type="checkbox"/> DIAMOND |
| 3 | <input type="checkbox"/> ROTARY (REVERSE) | 8 | <input type="checkbox"/> JETTING |
| 4 | <input type="checkbox"/> ROTARY (AIR) | 9 | <input type="checkbox"/> DRIVING |
| 5 | <input type="checkbox"/> AIR PERCUSSION | | <input type="checkbox"/> DIGGING <input type="checkbox"/> OTHER |

91811

DRILLERS REMARKS

CONTRACTOR	NAME OF WELL CONTRACTOR	WELL CONTRACTOR'S LICENCE NUMBER
	Hubert Done'	6241
	ADDRESS	
	Moose Creek	
	NAME OF WELL TECHNICIAN	WELL TECHNICIAN'S LICENCE NUMBER
	Hubert Done'	70207
	SIGNATURE OF TECHNICIAN/CONTRACTOR	SUBMISSION DATE
	Hubert Done'	DAY _____ NO. _____ YR. _____

OFFICE USE ONLY	DATA SOURCE	54	CONTRACTOR	59-62	DATE RECEIVED	63-68	80
	6241		NOV 22 1990				
	DATE OF INSPECTION		INSPECTOR				
REMARKS							



The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED

2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11

5803093

MUNICIPAL

58001

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COUNTY OR DISTRICT <i>State of</i>	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE <i>CDR wall</i>	CON. BLOCK, TRACT, SURVEY, ETC. <i>4</i>	LOT <i>1</i>
DATE COMPLETED DAY <i>24</i> MO <i>May</i> YR <i>88</i>		48-53	

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

[illegible]

31

32

WATER RECORD

WATER FOUND AT - FEET		KIND OF WATER			
10-15 78	1 <input checked="" type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	16		
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS			
15-18	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	19		
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS			
20-23	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	24		
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS			
25-28	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	29		
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS			
30-33	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	34		
	2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS			

CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
6-10-11	1 STEEL 2 GALVANIZED 3 CONCRETE 4 OPEN HOLE 5 PLASTIC	12	188	0 33
6-12-13	1 STEEL 2 GALVANIZED 3 CONCRETE 4 OPEN HOLE 5 PLASTIC	19		20-23 33 82
24-25	1 STEEL 2 GALVANIZED 3 CONCRETE 4 OPEN HOLE 5 PLASTIC	26		27-30

PLUGGING & SEALING RECORD

DEPTH SET AT FEET		MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)
FROM	TO	
00-13	34-17	Cement Grout
18-21	22-25	
26-29	30-33	90

PUMPING TEST

71	PUMPING TEST METHOD		30	PUMPING RATE		31-34	DURATION OF PUMPING	
	1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> SAILER			3		GPM		15-16 HOURS 0 17-18 MINS
	STATIC LEVEL	WATER LEVEL END OF PUMPING	28	WATER LEVELS DURING		1 <input type="checkbox"/> PUMPING 2 <input type="checkbox"/> RECOVERY		
	19-21	22-24	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES		
	10 FEET	78 FEET	24-28 50 FEET	29-31 75 FEET	32-34 77 FEET	35-37 78 FEET		
IF FLOWING, GIVE RATE		38-41	PUMP INTAKE SET AT		WATER AT END OF TEST		42	
			GPM		1 <input type="checkbox"/> CLEAR 2 <input checked="" type="checkbox"/> CLOUDY			
RECOMMENDED PUMP TYPE		RECOMMENDED PUMP SETTING		43-45	RECOMMENDED PUMPING RATE		46-49	
<input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP		75 FEET			3		GPM	
10-53								

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW.

SHOW DISTANCES OF WELL FROM
STATE NORTH BY ARROW.

North

T

**FINAL
STATUS
OF WELL**

1 <input checked="" type="checkbox"/> WATER SUPPLY	5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY
2 <input type="checkbox"/> OBSERVATION WELL	6 <input type="checkbox"/> ABANDONED, POOR QUALITY
3 <input type="checkbox"/> TEST HOLE	7 <input type="checkbox"/> UNFINISHED
4 <input type="checkbox"/> RECHARGE WELL	<input type="checkbox"/> DEWATERING

WATER USE

1 <input checked="" type="checkbox"/> DOMESTIC	5 <input type="checkbox"/> COMMERCIAL
2 <input type="checkbox"/> STOCK	6 <input type="checkbox"/> MUNICIPAL
3 <input type="checkbox"/> IRRIGATION	7 <input type="checkbox"/> PUBLIC SUPPLY
4 <input type="checkbox"/> INDUSTRIAL	8 <input type="checkbox"/> COOLING OR AIR CONDITIONING
<input type="checkbox"/> OTHER	9 <input type="checkbox"/> NOT USED

**METHOD
OF
CONSTRUCTION**

1 ☒ CABLE TOOL 6 ☐ BORING
2 ☐ ROTARY (CONVENTIONAL) 7 ☐ DIAMOND
3 ☐ ROTARY (REVERSE) 8 ☐ JETTING
4 ☐ ROTARY (AIR) 9 ☐ DRIVING
5 ☐ AIR PERCUSSION ☐ DIGGING ☐ OTHER

DRILLENS REMARKS

CONTRACTOR

CONTRACTOR	NAME OF WELL CONTRACTOR <i>Gilbert Urgo's</i>		WELL CONTRACTOR'S LICENCE NUMBER <i>1414</i>	
	ADDRESS <i>57 H/burline</i>			
	NAME OF WELL TECHNICIAN <i>S Home</i>			WELL TECHNICIAN'S LICENCE NUMBER
	SIGNATURE OF TECHNICIAN / CONTRACTOR <i>Billy Bonner</i>			SUBMISSION DATE DAY <i>24</i> MO. <i>May</i> YR. <i>88</i>

OFFICE USE ONLY

DATA SOURCE	58 1414	CONTRACTOR 59-62	DATE RECEIVED JUN 06 1989	63-68 80
DATE OF INSPECTION		INSPECTOR		
REMARKS				

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0508 (11/88) FORM 9



Ministry
of the
Environment
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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5803082

MUNICIPALITY
58001

CON. 104

104

COUNTY OR DISTRICT St Albans	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Carnwall	CON. BLOCK, TRACT, SURVEY, ETC.	LOT 25-27
DATE COMPLETED DAY 20 MO April YR 89		48-52	
ELEVATION 30		BASIN CODE 11	

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
brown	till		Hard	0	8
grey	till		Hard	8	50
grey	till		Hard	50	64

31	32
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41 WATER RECORD	
WATER FOUND AT FEET 61	KIND OF WATER 1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS

51 CASING & OPEN HOLE RECORD	
INSIDE DIAM. INCHES 6 1/4	MATERIAL 1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC
WALL THICKNESS INCHES 1.88	DEPTH - FEET FROM 0 TO 50

61 PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET FROM 0 TO 22	MATERIAL AND TYPE Cement Grout

71 PUMPING TEST	
PUMPING TEST METHOD 1 <input checked="" type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILEY	PUMPING RATE 8 GPM
STATIC LEVEL 11 FEET	WATER LEVEL END OF PUMPING 54 FEET
WATER LEVELS DURING 15 MINUTES 45 FEET 30 MINUTES 58 FEET 45 MINUTES 54 FEET 60 MINUTES 54 FEET	
IF FLOWING, GIVE RATE GPM	PUMP INTAKE SET AT 55 FEET
RECOMMENDED PUMP TYPE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP	RECOMMENDED PUMP SETTING 5 GPM

FINAL STATUS OF WELL	
1 <input checked="" type="checkbox"/> WATER SUPPLY 2 <input type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL	5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED POOR QUALITY 7 <input type="checkbox"/> UNFINISHED 8 <input type="checkbox"/> DEWATERING
WATER USE	
1 <input checked="" type="checkbox"/> DOMESTIC 2 <input type="checkbox"/> STOCK 3 <input type="checkbox"/> IRRIGATION 4 <input type="checkbox"/> INDUSTRIAL 5 <input type="checkbox"/> OTHER	6 <input type="checkbox"/> COMMERCIAL 7 <input type="checkbox"/> MUNICIPAL 8 <input type="checkbox"/> PUBLIC SUPPLY 9 <input type="checkbox"/> COOLING OR AIR CONDITIONING 10 <input type="checkbox"/> NOT USED
METHOD OF CONSTRUCTION	
1 <input checked="" type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input checked="" type="checkbox"/> ROTARY (AIR) 5 <input type="checkbox"/> AIR PERCUSSION	6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING 10 <input type="checkbox"/> DIGGING <input type="checkbox"/> OTHER

LOCATION OF WELL	
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATED BY ARROW.	
DRILLERS REMARKS 40177	

CONTRACTOR	
NAME OF WELL CONTRACTOR Gilles Bourgeois	WELL CONTRACTOR'S LICENCE NUMBER 1414
ADDRESS St Albans	
NAME OF WELL TECHNICIAN St Albans	WELL TECHNICIAN'S LICENCE NUMBER 0131
SIGNATURE OF TECHNICIAN/CONTRACTOR Gilles Bourgeois	SUBMISSION DATE DAY 20 MO April YR 89

OFFICE USE ONLY	
DATE RECEIVED MAY 17 1989	CONTRACTOR 1414
DATE OF INSPECTION	INSPECTOR
REMARKS	



The Ontario Water Resources Act

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COUNTY OR DISTRICT Stormont		TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Cornwall		LON. BLOCK TRACT SURVEY ETC South Branch Rd		LOT 9	
OWNER (SURNAME FIRST) Baileau Robert		ADDRESS RR2 Lunenburg		DATE COMPLETED 20 May 88			
28-87		44-53		DAY 20		MO May	
21		CONSTRUCTION		NORTHING		ELEVATION	

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

[illegible]

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WATER RECORD

WATER FOUND AT - FEET		KIND OF WATER			
81	10-13	1 <input checked="" type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	14	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		
	15-18	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	18	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		
	20-23	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	24	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		
	25-28	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	29	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		
	30-33	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	34	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		

CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES		MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
				FROM	TO
10-11	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC	12	1.88		13-16
6 1/4				0	24
17-16	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC	19			20-23
6 1/8					
14-15	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC	26			27-30

PLUGGING & SEALING RECORD

DEPTH SET AT - FEET		MATERIAL AND TYPE
FROM	TO	(CEMENT, GROUT, LEAD PACKER, ETC.)
0-10	24-17	Cement Grout
10-21	22-25	
26-29	30-33	80

PUMPING TEST	PUMPING TEST METHOD		10	PUMPING RATE		11-14	DURATION OF PUMPING	
	1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> BAILER			45		GPM	15-16 HOURS	0 17-18 MIN
	STATIC LEVEL	WATER LEVEL END OF PUMPING		23 WATER LEVELS DURING				1 <input checked="" type="checkbox"/> PUMPING 2 <input type="checkbox"/> RECOVERY
	19-21	22-24	25-28	30 MINUTES	35 MINUTES	45 MINUTES	60 MINUTES	
	35 FEET	70 FEET	55 FEET	70 FEET	70 FEET	70 FEET	70 FEET	59-37 FEET
IF FLOWING, GIVE RATE		38-41	PUMP INTAKE SET AT		WATER AT END OF TEST		42	
		GPM			1 <input type="checkbox"/> CLEAR 2 <input checked="" type="checkbox"/> CLOUDY			
RECOMMENDED PUMP TYPE		RECOMMENDED PUMP SETTING		43-45	RECOMMENDED PUMPING RATE		66-65	
<input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP		70 FEET		4		GPM		
0-53								

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW.

North
P.

South branch rd

80' 350'

McConnell

40194

DRILLERS REMARKS

**FINAL
STATUS
OF WELL**

- | | |
|--|---|
| 1 <input checked="" type="checkbox"/> WATER SUPPLY | 5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY |
| 2 <input type="checkbox"/> OBSERVATION WELL | 6 <input type="checkbox"/> ABANDONED POOR QUALITY |
| 3 <input type="checkbox"/> TEST HOLE | 7 <input type="checkbox"/> UNFINISHED |
| 4 <input type="checkbox"/> RECHARGE WELL | <input type="checkbox"/> DEWATERING |

WATER USE

- 1 ☒ DOMESTIC 5 ☐ COMMERCIAL
2 ☐ STOCK 6 ☐ MUNICIPAL
3 ☐ IRRIGATION 7 ☐ PUBLIC SUPPLY
4 ☐ INDUSTRIAL 8 ☐ COOLING OR AIR CONDITIONING
 ☐ OTHER 9 ☐ NOT USED

**METHOD
OF
CONSTRUCTION**

- | | | | |
|---|--|---|---|
| 1 | <input checked="" type="checkbox"/> CABLE TOOL | 6 | <input type="checkbox"/> BORING |
| 2 | <input type="checkbox"/> ROTARY (CONVENTIONAL) | 7 | <input type="checkbox"/> DIAMOND |
| 3 | <input type="checkbox"/> ROTARY (REVERSE) | 8 | <input type="checkbox"/> JETTING |
| 4 | <input type="checkbox"/> ROTARY (AIR) | 9 | <input type="checkbox"/> DRIVING |
| 5 | <input type="checkbox"/> AIR PERCUSSION | | <input type="checkbox"/> DIGGING <input type="checkbox"/> OTHER |

CONTRACTOR	NAME OF WELL CONTRACTOR <i>Gilles Boyncegis</i>		WELL CONTRACTOR'S LICENCE NUMBER <i>1414</i>	
	ADDRESS <i>5 + Albert ont</i>			
	NAME OF WELL TECHNICIAN <i>S. Anne</i>		WELL TECHNICIAN'S LICENCE NUMBER	
	SIGNATURE OF TECHNICIAN/CONTRACTOR <i>Gilles Boyncegis</i>		SUBMISSION DATE DAY <i>20</i> MO <i>mar</i> YR. <i>98</i>	

OFFICE USE ONLY	DATA SOURCE	58	CONTRACTOR	59-62	DATE RECEIVED	63-68	EO
			1414		MAY 03 1989		
	DATE OF INSPECTION		INSPECTOR				
REMARKS							



WATER WELL RECORD

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58001

CON. 104

COUNTY OR DISTRICT Cornwall	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Cornwall	CON. BLOCK, TRACT, SURVEY, ETC. 4	LOT 7
Address Headline Rd		DATE COMPLETED DAY 13 MO 9 YR 88	
RE.	ELEVATION	BC.	BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Fill	Stones	Packed	0	9
Grey	Hardpan		Packed	9	30
Grey	Gravel		Packed	30	55
Grey	Limestone		Layered Broken	55	57

31	32
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41 WATER RECORD WATER FOUND AT - FEET 56 KIND OF WATER 1 <input checked="" type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS 15-18 1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS 20-23 1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS 25-28 1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS 30-33 1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS	51 CASING & OPEN HOLE RECORD INSIDE DIAM. INCHES 6 1/4 MATERIAL 1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC WALL THICKNESS INCHES 1 1/8 DEPTH - FEET FROM TO 0 55 55 57 1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC 1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	61 PLUGGING & SEALING RECORD DEPTH SET AT - FEET FROM TO 10-13 14-17 2 55 MATERIAL AND TYPE Cement Grout LEAD PACKER ETC. 10-13 14-17 2 55 Clay Slurry
--	--	--

71 PUMPING TEST PUMPING TEST METHOD 1 <input checked="" type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER PUMPING RATE 50 GPM DURATION OF PUMPING 15-18 HOURS 00 MINS 17-18 1 <input checked="" type="checkbox"/> PUMPING 2 <input type="checkbox"/> RECOVERY STATIC LEVEL 20 FEET WATER LEVEL END OF PUMPING 25 FEET WATER LEVELS DURING 15 MINUTES 20-28 22 FEET 30 MINUTES 23-31 23 FEET 45 MINUTES 32-34 24 FEET 60 MINUTES 35-37 25 FEET IF FLOWING, GIVE RATE 57 GPM PUMP INTAKE SET AT 30-41 30 FEET WATER AT END OF TEST 42 1 <input type="checkbox"/> CLEAR 2 <input checked="" type="checkbox"/> CLOUDY RECOMMENDED PUMP TYPE 1 <input checked="" type="checkbox"/> SHALLOW 2 <input type="checkbox"/> DEEP RECOMMENDED PUMP SETTING 30 FEET RECOMMENDED PUMPING RATE 50 GPM	LOCATION OF WELL IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. Headline Rd 100 600 McConnell St 40648 DRILLERS REMARKS
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FINAL STATUS OF WELL 1 <input checked="" type="checkbox"/> WATER SUPPLY 2 <input type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL 5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED, POOR QUALITY 7 <input type="checkbox"/> UNFINISHED 8 <input type="checkbox"/> DEWATERING	WATER USE 1 <input checked="" type="checkbox"/> DOMESTIC 2 <input type="checkbox"/> STOCK 3 <input type="checkbox"/> IRRIGATION 4 <input type="checkbox"/> INDUSTRIAL 5 <input type="checkbox"/> COMMERCIAL 6 <input type="checkbox"/> MUNICIPAL 7 <input type="checkbox"/> PUBLIC SUPPLY 8 <input type="checkbox"/> COOLING OR AIR CONDITIONING 9 <input type="checkbox"/> NOT USED	METHOD OF CONSTRUCTION 1 <input type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input checked="" type="checkbox"/> ROTARY (AIR) 5 <input type="checkbox"/> AIR PERCUSSION 6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING 10 <input type="checkbox"/> DIGGING 11 <input type="checkbox"/> OTHER
CONTRACTOR NAME OF WELL CONTRACTOR Roy's LBR Ltd ADDRESS Cornwall NAME OF WELL TECHNICIAN Randy Roy SIGNATURE OF TECHNICIAN/CONTRACTOR SUBMISSION DATE DAY MO YR	WELL CONTRACTOR'S LICENCE NUMBER 4609 WELL TECHNICIAN'S LICENCE NUMBER T-0330	OFFICE USE ONLY DATA SOURCE DATE OF INSPECTION REMARKS WDE CONTRACTOR 4609 DATE RECEIVED FEB 22 1989 INSPECTOR



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WATER WELL RECORD

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58001

CON. NO.
CON.

LOT
10

COUNTY OR DISTRICT Simcoe	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Cornwall	CON. BLOCK, TRACT, SURVEY, ETC. 5	DATE COMPLETED DAY 22 MO 9 YR 88
R #1 Long South			

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)					
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Hardpan		Packed	0	25
Grey	Hardpan		Packed	25	38
Grey	Gravel	Hardpan	Packed	38	64
Grey	Limestone		Layered	64	70

31	32
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41	WATER RECORD
WATER FOUND AT - FEET 68	KIND OF WATER 1 <input checked="" type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS

51	CASING & OPEN HOLE RECORD		
INSIDE DIAM. INCHES 6 1/4	MATERIAL 1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	WALL THICKNESS INCHES 188	DEPTH - FEET FROM 0 TO 64

SCREEN	SIZES OF OPENING SLOT NO. 1	31-33 D AMETER	34-38 LENGTH	39-40 FEET
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61	PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET FROM 2 TO 25	MATERIAL AND TYPE Cement	CEMENT GROUT LEAD PACKER, ETC.

71	PUMPING TEST	
PUMPING TEST METHOD 1 <input checked="" type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER	PUMPING RATE 10 GPM	DURATION OF PUMPING 15-16 HOURS 17-18 MIN.

LOCATION OF WELL
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.
Diagram showing well location relative to Heatline and McCormell St. with distances 700 and 75.
28661

FINAL STATUS OF WELL	1 <input checked="" type="checkbox"/> WATER SUPPLY 2 <input type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL	5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED, POOR QUALITY 7 <input type="checkbox"/> UNFINISHED 9 <input type="checkbox"/> DEWATERING
WATER USE	1 <input checked="" type="checkbox"/> DOMESTIC 2 <input type="checkbox"/> STOCK 3 <input type="checkbox"/> IRRIGATION 4 <input type="checkbox"/> INDUSTRIAL 5 <input type="checkbox"/> OTHER	6 <input type="checkbox"/> COMMERCIAL 7 <input type="checkbox"/> MUNICIPAL 8 <input type="checkbox"/> PUBLIC SUPPLY 9 <input type="checkbox"/> COOLING OR AIR CONDITIONING 10 <input type="checkbox"/> NOT USED
METHOD OF CONSTRUCTION	1 <input type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input checked="" type="checkbox"/> ROTARY (TAPER) 5 <input type="checkbox"/> AIR PERCUSSION	6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING 10 <input type="checkbox"/> DIGGING 11 <input type="checkbox"/> OTHER

CONTRACTOR	NAME OF WELL CONTRACTOR Rox's LBR Ltd	WELL CONTRACTOR'S LICENCE NUMBER 4609
	ADDRESS Cornwall	
	NAME OF WELL TECHNICIAN Roger Roy	WELL TECHNICIAN'S LICENCE NUMBER T-0330
	SIGNATURE OF TECHNICIAN/CONTRACTOR	SUBMISSION DATE DAY MO YR

OFFICE USE ONLY	DATA SOURCE 4609	CONTRACTOR 4609	DATE RECEIVED FEB 22 1989
	DATE OF INSPECTION	INSPECTOR	
	REMARKS		
	WDE		



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WATER WELL RECORD

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10.5

COUNTY OR DISTRICT

TOWNSHIP BOROUGH CITY TOWN VILLAGE

CON BLOCK TRACT, SURVEY ETC

LOT	
-----	--

25-27

DATE COMPLETED

DAY 17 MO 10 YR. 88

1 2 3 4 5 6 7

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

[illegible]

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41 WATER RECORD

WATER FOUND AT - FEET		KIND OF WATER			
61	10-13	1 <input checked="" type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	14	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		
	15-18	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	19	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		
	20-23	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	24	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		
	25-26	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	28	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		
	30-33	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	34	
		2 <input type="checkbox"/> SALTY	4 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS		

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
10-11 6 1/4	1 <input checked="" type="checkbox"/> STEEL 2 <input checked="" type="checkbox"/> GALVANIZED 3 <input checked="" type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	188	0	56
17-18 6	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC		56	65
24-25	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC			

SCREEN	SIZE(S) OF OPENING SLOT NO 1	31-33	DIAMETER	34-38	LENGTH	39-40
				INCHES	FEET	
	MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN			41-44	10
				FEET		

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET		MATERIAL AND TYPE	(CEMENT GROUT LEAD PACKER, ETC.)
FROM	TO		
2 ¹⁰⁻¹³	5 ¹⁶⁻¹⁷	Cement	
18-21	22-25		
26-29	30-33	90	

PUMPING TEST	71
--------------	----

71

PUMPING TEST

PUMPING TEST METHOD		10	PUMPING RATE		11-14	DURATION OF PUMPING	
1 <input checked="" type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER			10		GPM	1	15-16 HOURS 00
							17-18 MINS
STATIC LEVEL	WATER LEVEL END OF PUMPING	25	WATER LEVELS DURING				1 <input checked="" type="checkbox"/> PUMPING 2 <input type="checkbox"/> RECOVERY
19-21	22-24		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES	
20	50		30	40	45	50	
FEET	FEET		FEET	FEET	FEET	FEET	
IF FLOWING, GIVE RATE		30-31	PUMP INTAKE SET AT		WATER AT END OF TEST		
			65				
		GPM	FEET		1 <input type="checkbox"/> CLEAR 2 <input checked="" type="checkbox"/> CLOUDY		
RECOMMENDED PUMP TYPE		RECOMMENDED PUMP SETTING		43-45	RECOMMENDED PUMPING RATE		46-49
<input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP		55		FEET	10		GPM

10-53

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.


Hand-drawn map showing the location of the site relative to Headline Rd and McConnell St. The site is marked with a circle and labeled "1/4 mile" from Headline Rd. A north arrow points towards the top right. The intersection of Headline Rd and McConnell St is marked with a small square.

40267

			C

FINAL STATUS OF WELL	54	1 <input checked="" type="checkbox"/> WATER SUPPLY	8 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY
	2 <input type="checkbox"/> OBSERVATION WELL	6 <input type="checkbox"/> ABANDONED POOR QUALITY	
	3 <input type="checkbox"/> TEST HOLE	7 <input type="checkbox"/> UNFINISHED	
	4 <input type="checkbox"/> RECHARGE WELL	<input type="checkbox"/> DEWATERING	
WATER USE	55-56	1 <input checked="" type="checkbox"/> DOMESTIC	5 <input type="checkbox"/> COMMERCIAL
	2 <input type="checkbox"/> STOCK	6 <input type="checkbox"/> MUNICIPAL	
	3 <input type="checkbox"/> IRRIGATION	7 <input type="checkbox"/> PUBLIC SUPPLY	
	4 <input type="checkbox"/> INDUSTRIAL	8 <input type="checkbox"/> COOLING OR AIR CONDITIONING	
		<input type="checkbox"/> OTHER _____	9 <input type="checkbox"/> NOT USED
METHOD OF CONSTRUCTION	57	1 <input type="checkbox"/> CABLE TOOL	6 <input type="checkbox"/> BORING
	2 <input type="checkbox"/> ROTARY (CONVENTIONAL)	7 <input type="checkbox"/> DIAMOND	
	3 <input type="checkbox"/> ROTARY (REVERSE)	8 <input type="checkbox"/> JETTING	
	4 <input checked="" type="checkbox"/> ROTARY (AIR)	9 <input type="checkbox"/> DRIVING	
		5 <input type="checkbox"/> AIR PERCUSSION	<input type="checkbox"/> DIGGING <input type="checkbox"/> OTHER

CONTRACTOR

CONTRACTOR	NAME OF WELL CONTRACTOR		WELL CONTRACTOR'S LICENCE NUMBER	
	Roy's LBR Ltd		4609	
	ADDRESS			
	Cornwall			
CONTRACTOR	NAME OF WELL TECHNICIAN		WELL TECHNICIAN'S LICENCE NUMBER	
	Roger Roy		T-0330	
	SIGNATURE OF TECHNICIAN / CONTRACTOR		SUBMISSION DATE	
			DAY _____ MO _____ YR _____	

OFFICE USE ONLY

OFFICE USE ONLY	DATA SOURCE	58 CONTRACTOR	59-62	DATE RECEIVED	63-68	69
	4609		FEB 22 1989			
	DATE OF INSPECTION		INSPECTOR			
	REMARKS					
	<div style="border: 2px solid black; padding: 5px; display: inline-block;">WDE</div>					



Ministry
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Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
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11

5802930

MUNICIP

COR.

COUNTY OR DISTRICT

TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE

CON. BLOCK, TRACT, SURVEY, ETC.

DATE COMPLETED

DAY 05 MO 01 YR 88

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
BROWN	tilt	and Boulders		0	16
GREY	tilt	and sand		16	63
GREY	GRAVEL	and sand		63	65
GREY	Limestone			65	66

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER		
10-13	1 <input checked="" type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERALS
65	2 <input type="checkbox"/> SALTY	5 <input type="checkbox"/> GAS	6 <input type="checkbox"/>
15-18	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERALS
2	2 <input type="checkbox"/> SALTY	5 <input type="checkbox"/> GAS	6 <input type="checkbox"/>
20-23	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERALS
2	2 <input type="checkbox"/> SALTY	5 <input type="checkbox"/> GAS	6 <input type="checkbox"/>
25-28	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERALS
2	2 <input type="checkbox"/> SALTY	5 <input type="checkbox"/> GAS	6 <input type="checkbox"/>
30-33	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERALS
2	2 <input type="checkbox"/> SALTY	5 <input type="checkbox"/> GAS	6 <input type="checkbox"/>

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
10-11	1 <input checked="" type="checkbox"/> STEEL			
65	2 <input type="checkbox"/> GALVANIZED	188	0	65
8	3 <input type="checkbox"/> CONCRETE			
17-18	4 <input type="checkbox"/> OPEN HOLE			
65	5 <input type="checkbox"/> PLASTIC		65	66
24-25	1 <input type="checkbox"/> STEEL			
2	2 <input type="checkbox"/> GALVANIZED			
3	3 <input type="checkbox"/> CONCRETE			
4	4 <input type="checkbox"/> OPEN HOLE			
5	5 <input type="checkbox"/> PLASTIC			

SCREEN	SIZE(S) OF OPENING (SLOT NO.)	31-33	DIAMETER	34-38	LENGTH	39-40
				INCHES		FEET
	MATERIAL AND TYPE			DEPTH TO TOP OF SCREEN	41-44	10
					FEET	

61 PLUGGING & SEALING RECORD

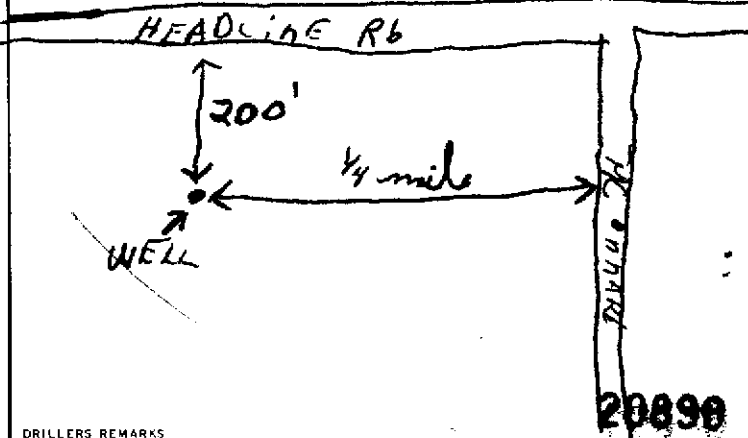
DEPTH SET AT - FEET		MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
FROM	TO	
10-13	14-17	
0	20	Cement grout
18-21	22-25	
26-29	30-33	

71

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING	
		11-14	15-18
1 <input type="checkbox"/> PUMP	2 <input checked="" type="checkbox"/> PUMP	30 GPM	1 00 HOURS
WATER LEVELS DURING			
10-11	12-13	14-15	16-17
15	35	30	32
18-21	22-24	25-27	28-30
30	32	34	35
PUMP INTAKE SET AT			
38-41	42-45	46-49	50-53
50	50	10	

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

20890

CONTRACTOR

NAME OF WELL CONTRACTOR

Gilles Bourgeois LTD

St. Albert, ON

Gilles SERGE

SIGNATURE OF TECHNICIAN/CONTRACTOR

WELL CONTRACTOR'S LICENCE NUMBER

1414

WELL TECHNICIAN'S LICENCE NUMBER

0131

SUBMISSION DATE

DAY 05 NO 01 YR 88

OFFICE USE ONLY

DATA SOURCE

DATE OF INSPECTION

REMARKS

CONTRACTOR

DATE RECEIVED

FEB 18 1988

INSPECTOR

WATER WELL RECORD

5802872

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MUNICIPALITY CON. LOT 25-27

COUNTY OR DISTRICT: **Simcoe** TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: **WELL** CON. BLOCK, TRACT, SURVEY, ETC: **4** LOT: **7**
DATE COMPLETED: DAY **17** NO. **1** YR. **82**
ELEVATION: **171** BASIN CODE: **1**

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
brown	till	boulders	Hard	0	8
grey	till	boulders	Hard	8	60
grey	gravel		Hard	60	65

31 32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13	1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS
15-18	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS
20-23	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS
25-28	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS
30-33	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
10-11	1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC	1.88	0 65
17-18	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC		
24-25	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC		

SCREEN

SIZE/ST. OF OPENING - SLOT NO. 1	DIAMETER INCHES	LENGTH FEET
1	1.88	0 65

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE	CEMENT GROUT (LEAD PACKER, ETC.)
0-12	20	Cement Grout
18-21	22-25	
26-29	30-33	

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> WEAVER	35 GPM	15-16 HOURS 15-18 MINS
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING
20' FEET	50' FEET	15 MINUTES 30 MINUTES 45 MINUTES 60 MINUTES
20' FEET	50' FEET	30' FEET 50' FEET 50' FEET 50' FEET
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
	50' FEET	1 <input type="checkbox"/> CLEAR 2 <input checked="" type="checkbox"/> CLOUDY
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
1 <input type="checkbox"/> SHALLOW 2 <input checked="" type="checkbox"/> DEEP	50' FEET	8 GPM

84 FINAL STATUS OF WELL

1 <input checked="" type="checkbox"/> WATER SUPPLY 2 <input type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL	5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED, POOR QUALITY 7 <input type="checkbox"/> UNFINISHED 8 <input type="checkbox"/> DEWATERING
--	--

85-86 WATER USE

1 <input checked="" type="checkbox"/> DOMESTIC 2 <input type="checkbox"/> STOCK 3 <input type="checkbox"/> IRRIGATION 4 <input type="checkbox"/> INDUSTRIAL 5 <input type="checkbox"/> OTHER	5 <input type="checkbox"/> COMMERCIAL 6 <input type="checkbox"/> MUNICIPAL 7 <input type="checkbox"/> PUBLIC SUPPLY 8 <input type="checkbox"/> COOLING OR AIR CONDITIONING 9 <input type="checkbox"/> NOT USED
--	--

87 METHOD OF CONSTRUCTION

1 <input type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input type="checkbox"/> ROTARY (AIR) 5 <input type="checkbox"/> AIR PERCUSSION	6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING 10 <input type="checkbox"/> DIGGING 11 <input type="checkbox"/> OTHER
--	--

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.

North

11630

CONTRACTOR

NAME OF WELL CONTRACTOR: **Little Bonyon**
ADDRESS: **St Albans Ont**
NAME OF WELL TECHNICIAN: **Little Bonyon**
SIGNATURE OF TECHNICIAN/CONTRACTOR: **Little Bonyon**
SUBMISSION DATE: DAY **12** YR. **82**

WELL CONTRACTOR'S LICENCE NUMBER: **1414**
WELL TECHNICIAN'S LICENCE NUMBER: **1414**

OFFICE USE ONLY

DATE RECEIVED: **OCT 21 1987**
DATE OF INSPECTION: **1**
INSPECTOR: **1**
REMARKS: **1**



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of the
Environment

The Ontario Water Resources Act

3162c

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED

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11

5802458

58001

CON

05

COUNTY OR DISTRICT STANDARD	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE CORNWALL	CON. BLOCK, TRACT, SURVEY, ETC. 5	LOT 8
ST ANDREWS WEST			DATE COMPLETED DAY 9 MO 7 YR 81

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
BROWN	HARD PAN	STONES	HARD	0	8
GREY	" "	" "	" "	8	57
" "	LIME STONE	" "	LAYERED	57	70

31	32
----	----

41	WATER RECORD
WATER FOUND AT - FEET	KIND OF WATER
10-13 65	<input checked="" type="checkbox"/> FRESH <input type="checkbox"/> SULPHUR <input type="checkbox"/> SALTY <input type="checkbox"/> MINERAL
15-18	<input type="checkbox"/> FRESH <input type="checkbox"/> SULPHUR <input type="checkbox"/> SALTY <input type="checkbox"/> MINERAL
20-23	<input type="checkbox"/> FRESH <input type="checkbox"/> SULPHUR <input type="checkbox"/> SALTY <input type="checkbox"/> MINERAL
25-28	<input type="checkbox"/> FRESH <input type="checkbox"/> SULPHUR <input type="checkbox"/> SALTY <input type="checkbox"/> MINERAL
30-33	<input type="checkbox"/> FRESH <input type="checkbox"/> SULPHUR <input type="checkbox"/> SALTY <input type="checkbox"/> MINERAL

51	CASING & OPEN HOLE RECORD		
INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
10-11	<input checked="" type="checkbox"/> STEEL		FROM TO
12-13	<input type="checkbox"/> GALVANIZED		
14-15	<input type="checkbox"/> CONCRETE		
16-17	<input type="checkbox"/> OPEN HOLE		
18-19	<input type="checkbox"/> STEEL		
20-21	<input type="checkbox"/> GALVANIZED		
22-23	<input type="checkbox"/> CONCRETE		
24-25	<input checked="" type="checkbox"/> OPEN HOLE		
26-27	<input type="checkbox"/> STEEL		
28-29	<input type="checkbox"/> GALVANIZED		
30-31	<input type="checkbox"/> CONCRETE		
32-33	<input type="checkbox"/> OPEN HOLE		

SCREEN	SIZE OF OPENING (SLOT NO.)	DIAMETER	LENGTH
		INCHES	FEET
	MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN	

61	PLUGGING & SEALING RECORD
DEPTH SET AT - FEET	MATERIAL AND TYPE
FROM TO	(CEMENT GROUT, LEAD PACKER, ETC.)
10-13	
14-17	
18-21	
22-25	
26-29	

71	PUMPING TEST	
PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMP AG
1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> BAILER	10 GPM	15-18 HOURS 17-18 MINS
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING
19-21 15 FEET	22-24 416 FEET	15 MINUTES 25-28 25 FEET 30 MINUTES 29-31 35 FEET 45 MINUTES 32-34 45 FEET 60 MINUTES 35-37 46 FEET
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
	70 GPM	1 <input type="checkbox"/> CLEAR 2 <input checked="" type="checkbox"/> CLOUDY
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
<input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP	60 FEET	10 GPM

LOCATION OF WELL
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.
DRILLER'S REMARKS

FINAL STATUS OF WELL	1 <input checked="" type="checkbox"/> WATER SUPPLY 2 <input type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL	5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED, POOR QUALITY 7 <input type="checkbox"/> UNFINISHED
WATER USE	1 <input checked="" type="checkbox"/> DOMESTIC 2 <input type="checkbox"/> STOCK 3 <input type="checkbox"/> IRRIGATION 4 <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> OTHER	5 <input type="checkbox"/> COMMERCIAL 6 <input type="checkbox"/> MUNICIPAL 7 <input type="checkbox"/> PUBLIC SUPPLY 8 <input type="checkbox"/> COOLING OR AIR CONDITIONING 9 <input type="checkbox"/> NOT USED
METHOD OF DRILLING	1 <input type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input checked="" type="checkbox"/> ROTARY (AIR) 5 <input type="checkbox"/> AIR PERCUSSION	6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING

CONTRACTOR	NAME OF WELL CONTRACTOR Roy's Well Drilling	LICENCE NUMBER 4609
	ADDRESS Cornwall	
	NAME OF DRILLER OR BORER R A ROY	LICENCE NUMBER
	SIGNATURE OF CONTRACTOR 	SUBMISSION DATE DAY _____ MO _____ YR _____

OFFICE USE ONLY	DATA SOURCE 4609	CONTRACTOR 4609	DATE RECEIVED 0308 82
	DATE OF INSPECTION	INSPECTOR	
	REMARKS WDE		

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506-4-77 FORM 7



The Ontario Water Resources Act

WATER WELL RECORD

11

15801933

MUNICIP
58001

CON
CÓN

04

COUNTY OR DISTRICT

Stermont

TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE

Corwall

CON. BLOCK, TRACT, SURVEY, ETC

4.

Wks of 6.

DATE COMPLETED 4-9-48-53

DAY 27 MO Sept YR 77.

P.O. Box 1273, Cornwall, Ontario

NG
80.599

R

ELEVATION
0200

R C

BASIN C
2.4

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

[illegible]

31	CC026027779	00212051373	00276112805	01232151273		
32						

41 WATER RECORD	
WATER FOUND AT - FEET	KIND OF WATER
10-13	1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
15-18	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
20-23	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
25-28	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
30-33	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL

51 CASING & OPEN HOLE RECORD			
INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
			FROM TO
10-11	<input checked="" type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRTE <input type="checkbox"/> OPEN HOLE	.188	12-13
06	0		0027
17-18	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRTE <input type="checkbox"/> OPEN HOLE		19-20
24-25	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRTE <input type="checkbox"/> OPEN HOLE	26	27-30

SCREEN	54	65	75	80			
	SIZE(S) OF OPENING (SLOT NO.)	31-33	DIAMETER	34-38	LENGTH	39-40	
	INCHES				FEET		
	MATERIAL AND TYPE			DEPTH TO TOP OF SCREEN		41-44	RD
						FEET	

61 PLUGGING & SEALING RECORD			
DEPTH SET AT - FEET		MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER, ETC.
FROM	TO		
10-13	14-17		
18-21	22-25		
26-29	30-33	80	

PUMPING TEST

PUMPING TEST METHOD		PUMPING RATE		DURATION OF PUMPING	
<div style="display: flex; justify-content: space-between;"> 1 <input checked="" type="checkbox"/> PUMP 2 <input type="checkbox"/> SAILER </div>		0004		<div style="display: flex; justify-content: space-between;"> 01 15-16 HOURS 00 17-18 HOURS </div>	
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING			
		<div style="display: flex; justify-content: space-between;"> <div> 1 <input checked="" type="checkbox"/> PUMPING 2 <input type="checkbox"/> RECOVERY </div> </div>			
19-21	22-24	15 MINUTES 26-28	30 MINUTES 29-31	45 MINUTES 32-34	60 MINUTES 35-37
020 FEET	060 FEET	060 FEET	060 FEET	060 FEET	060 FEET
IF FLOWING, GIVE RATE		PUMP INTAKE SET AT		WATER AT END OF TEST	
38-41				42	
GPM		FEET		1 <input checked="" type="checkbox"/> CLEAR 2 <input type="checkbox"/> CLOUDY	
RECOMMENDED PUMP TYPE		RECOMMENDED PUMP SETTING		RECOMMENDED PUMPING RATE	
<input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP		43-45 070 FEET		46-49 -0004 GPM	
50-55 set ejector at 70' with 35' of tailpipe.					

<p>FINAL STATUS OF WELL</p> <p>1</p>	<p>1 <input checked="" type="checkbox"/> WATER SUPPLY</p> <p>2 <input type="checkbox"/> OBSERVATION WELL</p> <p>3 <input type="checkbox"/> TEST HOLE</p> <p>4 <input type="checkbox"/> RECHARGE WELL</p>	<p>5 <input type="checkbox"/> ABANDONED : INSUFFICIENT SUPPLY</p> <p>6 <input type="checkbox"/> ABANDONED : POOR QUALITY</p> <p>7 <input type="checkbox"/> UNFINISHED</p>
<p>WATER USE</p> <p>01</p>	<p>1 <input type="checkbox"/> DOMESTIC</p> <p>2 <input checked="" type="checkbox"/> STOCK</p> <p>3 <input type="checkbox"/> IRRIGATION</p> <p>4 <input type="checkbox"/> INDUSTRIAL</p> <p><input type="checkbox"/> OTHER</p>	<p>5 <input type="checkbox"/> COMMERCIAL</p> <p>6 <input type="checkbox"/> MUNICIPAL</p> <p>7 <input type="checkbox"/> PUBLIC SUPPLY</p> <p>8 <input type="checkbox"/> COOLING OR AIR CONDITIONING</p> <p>9 <input type="checkbox"/> NOT USED</p>
<p>METHOD OF DRILLING</p> <p>4</p>	<p>1 <input type="checkbox"/> CABLE TOOL</p> <p>2 <input type="checkbox"/> ROTARY (CONVENTIONAL)</p> <p>3 <input type="checkbox"/> ROTARY (REVERSE)</p> <p>4 <input type="checkbox"/> ROTARY (AIR)</p> <p>5 <input checked="" type="checkbox"/> AIR PERCUSSION</p>	<p>6 <input type="checkbox"/> BORING</p> <p>7 <input type="checkbox"/> DIAMOND</p> <p>8 <input type="checkbox"/> JETTING</p> <p>9 <input type="checkbox"/> DRIVING</p>

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW

4 1/10'S OF A MILE TO
COUNTY RD. # 19.

LOT. 7.

LOT. 6.

60' 7"

81'

49'

N

DRAWERS REMARKS

CONTRACTOR	NAME OF WELL CONTRACTOR		LICENCE NUMBER	
	Ramon H. Casselman		1505	
	ADDRESS			
	Williamsburg, Ontario			
CONTRACTOR	NAME OF DRILLER OR BORER		LICENCE NUMBER	
	Dalton Gow.			
	SIGNATURE OF CONTRACTOR		SUBMISSION DATE	
	Ramon H. Casselman		DAY 27 MO. Sept. YR. 77	

OFFICE USE ONLY	DATA SOURCE	58	CONTRACTOR	59-62	DATE RECEIVED	211277	80
		1	1565				
	DATE OF INSPECTION		INSPECTOR				
			<i>[Signature]</i>				
REMARKS:							



WATER WELL RECORD

316-2W

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11

5801367

MUNICIP.
585.01

CDN

COUNTY OR DISTRICT

STORMONT

TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE

CORN WALL

CON., BLOCK, TRACT, SURVEY, ETC.

3820 me Connellan

RM WALL 3220 Mc CONNELL

DATE COMPLETED 26 04 48:53
DAY 26 MO. April YR. 74

THING
990264

R

ELEVATION
2198

RC

BASIN CODE
25

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

[illegible]

31 004221413 0057215

32

1 2 10 14 15
41 WATER RECORD

WATER FOUND AT - FEET		KIND OF WATER			
10-13	1 <input checked="" type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL	14		
15-18	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL	19		
20-23	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL	24		
25-28	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL	29		
30-33	1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL	34		

51

CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
10-11	1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE	12	18'	0 0042
17-18	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE	19		20-2
24-25	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE	26		27-30

SCREEN	SIZE(S) OF OPENING (SLOT NO.)	31-38	DIAMETER	34-38	LENGTH	39-40
	MATERIAL AND TYPE	INCHES			FEET	
			DEPTH TO TOP OF SCREEN	41-44	FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET		MATERIAL AND TYPE	CEMENT GROUT, LEAD PACKER, ETC.
FROM	TO		
10-12	14-17	N/A	
18-21	22-25		
26-29	30-33		30

PUMPING TEST	PUMPING TEST METHOD		10	PUMPING RATE		11-14	DURATION OF PUMPING				
	1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> BAILER		0015		GPM	01 15-16 30 17-18					
						HOURS MINS					
	25		WATER LEVELS DURING		1 <input checked="" type="checkbox"/> PUMPING						
	2 <input type="checkbox"/> RECOVERY										
STATIC LEVEL		WATER LEVEL END OF PUMPING		15 MINUTES		30 MINUTES		45 MINUTES		60 MINUTES	
19-21		22-24		26-28		29-31		32-34		35-37	
010 FEET		022 FEET		022 FEET		022 FEET		022 FEET		022 FEET	
IF FLOWING, GIVE RATE		38-41		PUMP INTAKE SET AT		WATER AT END OF TEST		42			
				50				1 <input type="checkbox"/> CLEAR 2 <input checked="" type="checkbox"/> CLOUDY			
RECOMMENDED PUMP TYPE		RECOMMENDED PUMP SETTING		43-45		RECOMMENDED PUMPING RATE		46-49			
1 <input type="checkbox"/> SHALLOW 2 <input checked="" type="checkbox"/> DEEP		040		FEET		0008		GPM			
50-53		001.2		GPM./FT. SPECIFIC CAPACITY							

FINAL STATUS OF WELL	54	1 <input checked="" type="checkbox"/> WATER SUPPLY 2 <input type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL	5 <input type="checkbox"/> ABANDONED INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED POOR QUALITY 7 <input type="checkbox"/> UNFINISHED
	55-56	1 <input checked="" type="checkbox"/> DOMESTIC 2 <input type="checkbox"/> STOCK 3 <input type="checkbox"/> IRRIGATION 4 <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> OTHER	5 <input type="checkbox"/> COMMERCIAL 6 <input type="checkbox"/> MUNICIPAL 7 <input type="checkbox"/> PUBLIC SUPPLY 8 <input type="checkbox"/> COOLING OR AIR CONDITIONING <input type="checkbox"/> NOT USED
METHOD OF DRILLING	57	1 <input checked="" type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input type="checkbox"/> ROTARY (AIR) 5 <input type="checkbox"/> AIR PERCUSSION	6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW

~~SOUTH BRANCH R.D.~~

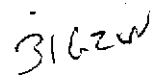
Mc CONNELL
230'
M. J.
10-20

*base train
information
unreliable*

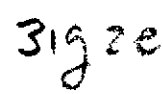
✓ DRILLERS REMARKS:

CONTRACTOR	NAME OF WELL CONTRACTOR		LICENCE NUMBER
	CAYER WELL DRILLING		1517
	ADDRESS		
	CASSELMAN ONT		
	NAME OF DRILLER OR BORER		LICENCE NUMBER
	SIGNATURE OF CONTRACTOR		SUBMISSION DATE
	Maurice Cayer		DAY _____ MO. _____ YR. _____

OFFICE USE ONLY	DATA SOURCE	58	CONTRACTOR	59-62	DATE RECEIVED	63-68	80
	1		1517		0 105 74		
	DATE OF INSPECTION		INSPECTOR				
			K				
	REMARKS						P WI



OWRC COPY



LOT	25-27
-----	-------

005

DATE COMPLETED	2/28/53
----------------	---------

DAY 28 MO. FEB YR. 72

990750

RE
K

ELEVATION
12

—A—

BASIN CODE
25

ITM

11825119151510

Con 14

CODED



5801067

4R 499111401

lev. 5R 0200

The Ontario Water Resources Commission Act

asin 125

WATER WELL RECORD

3

County or District STORMONT Township, Village, Town or City CORNWALL

Con. 4 Lot 4 Date completed 6 (day) Dec (month) 1968 (year)

Address SOUTH BRANCH RD

Casing and Screen Record

Pumping Test

Inside diameter of casing 6"
 Total length of casing 18'
 Type of screen
 Length of screen
 Depth to top of screen
 Diameter of finished hole 6"

Static level 13'
 Test-pumping rate 5 G.P.M.
 Pumping level 40
 Duration of test pumping 1 hr
 Water clear or cloudy at end of test clear
 Recommended pumping rate 5 G.P.M.
 with pump setting of 50 feet below ground surface

Well Log

Water Record

Overburden and Bedrock Record

From ft.

To ft.

Depth(s) at which water(s) found

Kind of water (fresh, salty, sulphur)

HARD PAN & BOULDERS

10

15

GREY LIMESTONE

15

97

95

fresh

For what purpose(s) is the water to be used? FARM

Is well on upland, in valley, or on hillside? VALLEY

Drilling or Boring Firm ROY & SON REGD

410 Seventh St., W.

Address Cornwall, Ont..

Licence Number 3070

Name of Driller or Borer Roger A. Roy

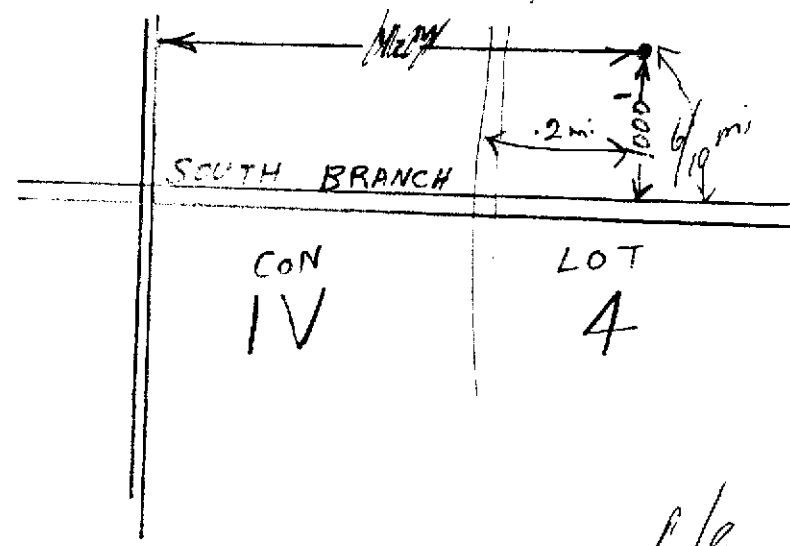
Address 706 Eleventh St E, Cornwall, Ont..

Date Dec 14/68

(Signature of Licensed Drilling or Boring Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



UT 11/18 5 1 8 8 2 5 F

5 R 4 9 9 0 9 5 0 N



31 G/2 W

58 No 270

The Ontario Water Resources Commission Act

Elev. 5 R 0 2 0 0

WATER WELL RECORD

Basin 2 5
County or District Stormont

Township, Village, Town or City Cornwall

Con. 4 Lot. 6

Date completed 20 NOV 1966
(day month year)

Address R.R.#2, Cornwall, Ont..

Casing and Screen Record

Inside diameter of casing 6"
Total length of casing 19'10"
Type of screen
Length of screen
Depth to top of screen
Diameter of finished hole 6"

Pumping Test

Static level 10'
Test-pumping rate 20 G.P.M.
Pumping level 13'
Duration of test pumping 1 hr.
Water clear or cloudy at end of test Clear
Recommended pumping rate 20 G.P.M.
with pump setting of 35' feet below ground surface

Well Log

Overburden and Bedrock Record

Hard pan
Limestone

From ft.

To ft.

Depth(s) at which water(s) found

Kind of water (fresh, salty, sulphur)

0' 19'10"
19'10" 93'

93' FRESH

Water Record

For what purpose(s) is the water to be used?

General use. House

Is well on upland, in valley, or on hillside? Valley

Drilling or Boring Firm Roy & Son Reg'd

Address 303 Water St. W., Cornwall, Ont..

Licence Number 2214

Name of Driller or Borer Roger A. Roy

Address 706 Eleventh St., Cornwall, Ont..

Date DEC 15 1966

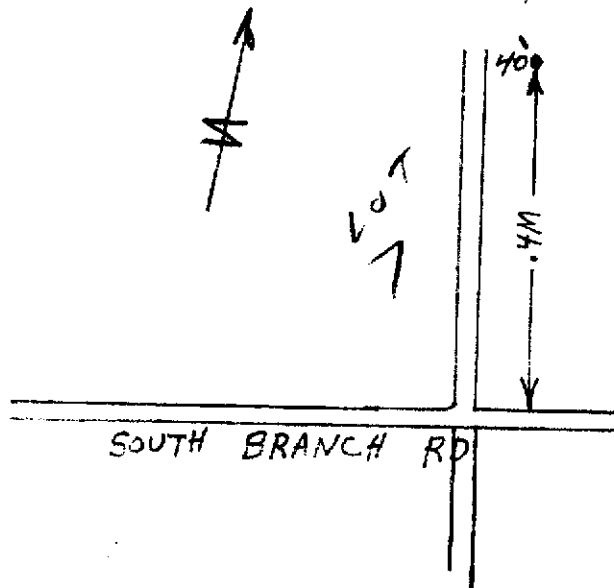
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

OWRC COPY

Location of Well

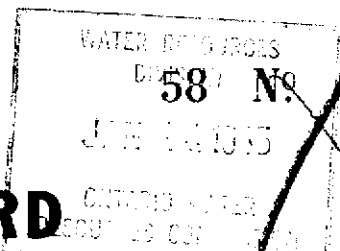
In diagram below show distances of well from road and lot line. Indicate north by arrow.



UTM 18 519200 E



316/2 W



269

605 RIV 499 1900 N
6075 R 50200

The Ontario Water Resources Commission Act

WATER WELL RECORD

Basin 25
County or District Stormont

Township, Village, Town or City Cornwall

Con. IV

Lot 5

Date completed 12 Dec 1964
(day month year)

Address Cornwall Ont

Casing and Screen Record

Inside diameter of casing 2'
Total length of casing 12'
Type of screen 1
Length of screen 1
Depth to top of screen 1
Diameter of finished hole 2'

Pumping Test

Static level 10'
Test-pumping rate 4 G.P.M.
Pumping level 24
Duration of test pumping 10 hrs
Water clear or cloudy at end of test clear
Recommended pumping rate 4 G.P.M.
with pump setting of 24 feet below ground surface

Well Log

Overburden and Bedrock Record

Hardpan
Limestone

From ft.

To ft.

Depth(s) at which water(s) found

Kind of water (fresh, salty, sulphur)

0
12

12
77

77

fresh

For what purpose(s) is the water to be used?

Home

Is well on upland, in valley, or on hillside? Valley

Drilling or Boring Firm Ray & Son Reg'd

P.O. Box 1132

Address 3260 Johnston Ave
Cornwall Ont

Licence Number 1352

Name of Driller or Borer Leo Ray

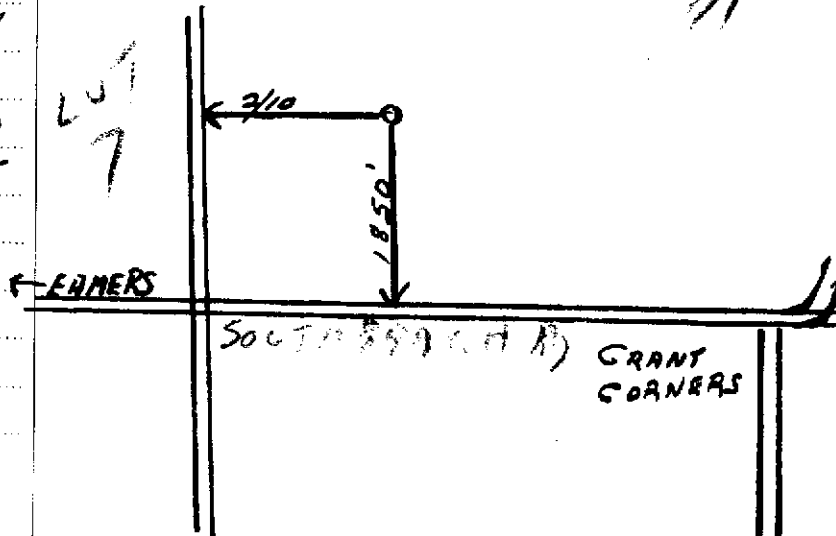
Address Same

Date Dec 25/64

(Signature of Licensed Drilling or Boring Contractor)

Location of Well

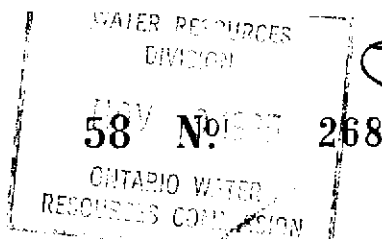
In diagram below show distances of well from road and lot line. Indicate north by arrow.



UTM 18N 519950
5207 5990850



3162/E



The Ontario Water Resources Commission Act

Elev. 5R 0200

WATER WELL RECORD

Basin 25
County or District

Stoughton

Township, Village, Town or City

Cornwall

Con. 4

Lot 5

Date completed

6

AUG

65

(day)

month

year

Address

Cornwall

Casing and Screen Record

Inside diameter of casing 5
Total length of casing 13
Type of screen
Length of screen
Depth to top of screen
Diameter of finished hole 5

Pumping Test

Static level 6
Test-pumping rate 13 G.P.M.
Pumping level 6
Duration of test pumping 2 DAYS
Water clear or cloudy at end of test CLEAR
Recommended pumping rate 5 G.P.M.
with pump setting of 25 feet below ground surface

Well Log

Overburden and Bedrock Record

CLAY

LIMESTONE

From ft.

To ft.

0

13

13

33

Depth(s) at which water(s) found

30

Kind of water (fresh, salty, sulphur)

FRESH

For what purpose(s) is the water to be used?

FARM

Is well on upland, in valley, or on hillside?

Drilling or Boring Firm

A BOURDON

Address

CORNWALL

Licence Number

1707

Name of Driller or Borer

A BOURDON

Address

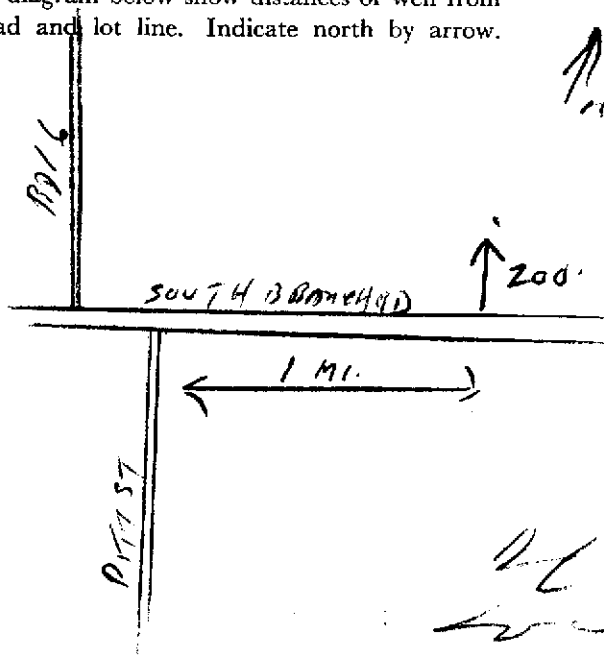
Date

AUG 2/65

Arsene Boudon
(Signature of Licensed Drilling or Boring Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



UTM 18Z 520475E



316/2E

58 No. 267

603R 4990825N

603R 402000

The Ontario Water Resources Commission Act

WATER WELL RECORD

Basin 25 County or District Stormont

Township, Village, Town or City Cornwall

Con. IV Lot 4

Date completed 10 Nov 1964

Address Cornwall

Casing and Screen Record

Inside diameter of casing 5'
Total length of casing 28'
Type of screen -
Length of screen -
Depth to top of screen -
Diameter of finished hole 5

Pumping Test

Static level 24'
Test-pumping rate 4 G.P.M.
Pumping level 60'
Duration of test pumping 1 hr
Water clear or cloudy at end of test clear
Recommended pumping rate 4 G.P.M.
with pump setting of 60 feet below ground surface

Well Log

Overburden and Bedrock Record

6' Clay
Hardpan
lime Stone

From ft.

To ft.

Depth(s) at which water(s) found

Kind of water (fresh, salty, sulphur)

0 12
12 28
28 63

63 Fresh

For what purpose(s) is the water to be used? Home

Is well on upland, in valley, or on hillside? Valley

Drilling or Boring Firm Roy & Son Reg'd

3260 Johnston Ave

Address P.O. Box 1132

Cornwall

Licence Number 1352

Name of Driller or Borer Raymond Snyder

Address Cornwall

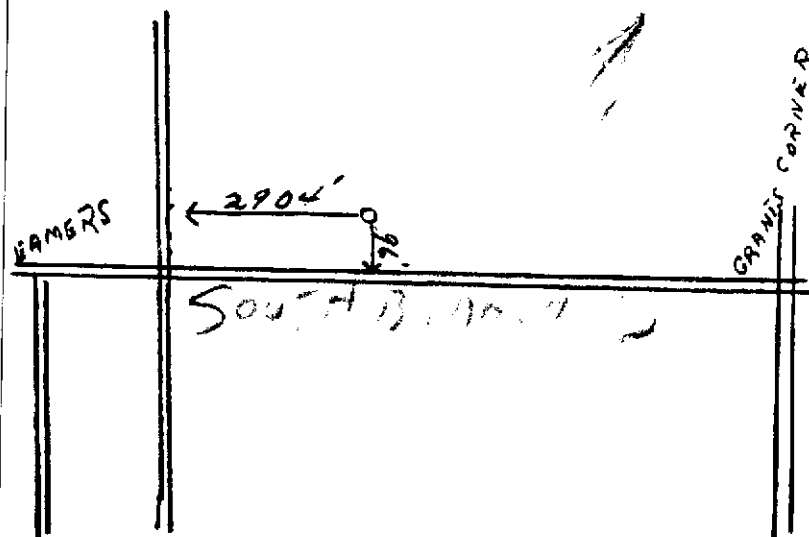
Date Nov 21/64

Geo Roy

(Signature of Licensed Drilling or Boring Contractor)

Location of Well

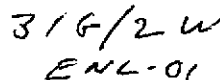
In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 7 10M-62-1152

OWRC COPY

Basin 23



The Water-well Drillers Act, 1954
Department of Mines



Water-Well Record

County or Territorial District Alameda Ship, Village, Town or City Cornwall
 [Redacted] in Village, Town or City Cornwall
 Address Cornwall
 Date completed 1.1.1930
 (day) (month) (year)

Pipe and Casing Record

Pumping Test

Casing diameter(s)	5 inches	Static level	7 feet
Length(s)	32 feet	Pumping rate	4.00 gal/hr
Type of screen	—	Pumping level	7 feet
Length of screen		Duration of test	3 hours

Well Log

Water Record

[illegible]

For what purpose(s) is the water to be used?

Is water clear or cloudy?.....*Clear*.....

Is well on upland, in valley, or on hillside?.....

Drilling firm

Address

Name of Driller *Asen Louche*

Address 20 Laurel Avenue

Licence Number.....344.....

I certify that the foregoing
statements of fact are true.

Date 30 Dec Arzene, Bourdon

Signature of Licensees

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.

444-6000

CONFIDENTIAL

CO 43
1076

5005
30 FF

CLASS / NAME / NO.

CORNWALL

UTM 18 519420 E

5R 4990250 N

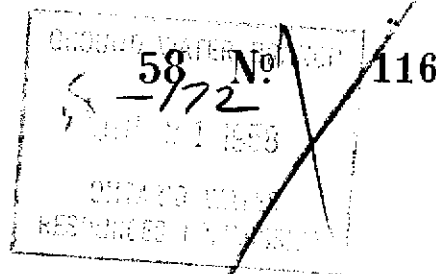
Elev. 5R 0200

Basin 25



ONTARIO

316/2W
ENL-01



The Water-well Drillers Act, 1954
Department of Mines

Water-Well Record

Ship, Village, Town or City Cornwall

in Village, Town or City

Address Cornwall

Date completed 10 July 1958
(day) (month) (year)

Pipe and Casing Record

Pumping Test

Casing diameter(s) 2 ins

Length(s) 34 ft

Type of screen

Length of screen

Static level 24 ft

Pumping rate 300 G.P.H.

Pumping level 30 ft

Duration of test 1 hr

Well Log

Water Record

Overburden and Bedrock Record

From
ft.

To
ft.

Depth(s)
at which
water(s)
found

No. of feet
water rises

Kind of water
(fresh, salty,
or sulphur)

Woodson & Boulders
Heavy Limestone

0

34

105'

105 ft

8'

Fresh

For what purpose(s) is the water to be used?

Home

Is water clear or cloudy? Clear

Is well on upland, in valley, or on hillside? Hillside

Drilling firm Roy & Son, Reg'd

Address Apple Hill, Ont.

Name of Driller Leo Roy

Address Apple Hill

Licence Number

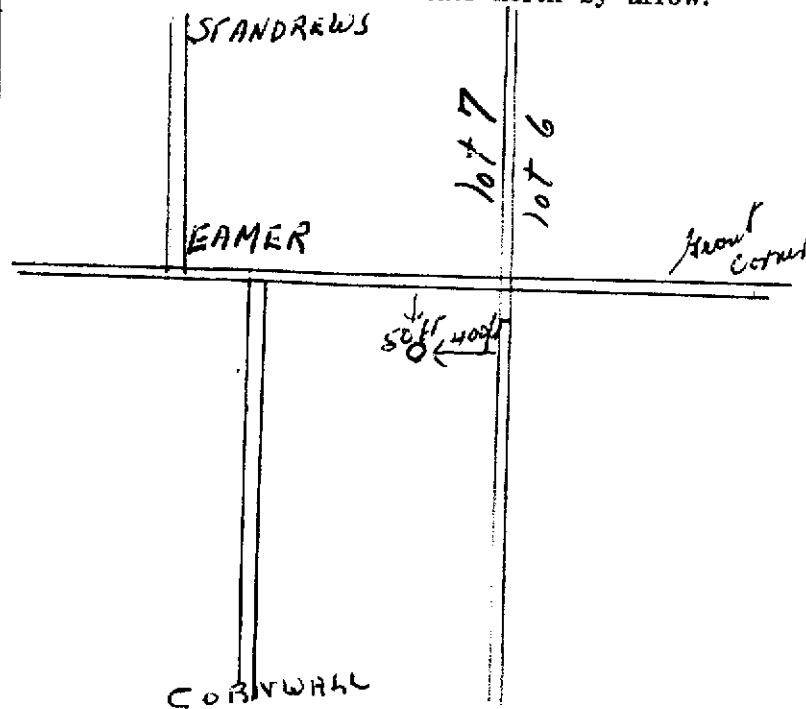
I certify that the foregoing
statements of fact are true.

Date July 15/58

Signature of Licensee

Location of Well

In diagram below show distances of well from
road and lot line. Indicate north by arrow.

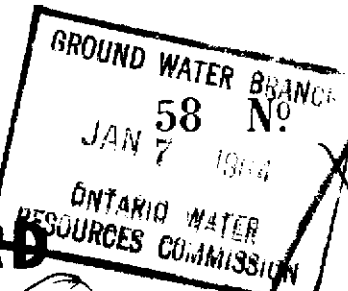


UTM 18 Z 520350 E5 R 4990750 N

316/2 E

ENL-01

The Ontario Water Resources Commission Act

Elev. 5 R 0200

WATER WELL RECORD

Basin 25County or District SimcoeTownship, Village, Town or City BarrieCon. E Lot 7Date completed 24 July 1963
(day month year)Dress James Gormley

Casing and Screen Record

Inside diameter of casing 2"
Total length of casing 32'
Type of screen -
Length of screen -
Depth to top of screen -
Diameter of finished hole 2"

Pumping Test

Static level 5'
Test-pumping rate 6 G.P.M.
Pumping level 20'
Duration of test pumping 1 hr
Water clear or cloudy at end of test clear
Recommended pumping rate 6 G.P.M.
with pump setting of 20 feet below ground surface

Well Log

Overburden and Bedrock Record

Clay
Sand & Gravel

From
ft.To
ft.Depth(s) at
which water(s)
foundKind of water
(fresh, salty,
sulphur)020203232Fresh

For what purpose(s) is the water to be used?

Home

Is well on upland, in valley, or on hillside?

ValleyDrilling or Boring Firm Ray & Son, Reg'dAddress 2260 Johnston AveBarrie, OntLicence Number 1005Name of Driller or Borer Geo RayAddress HomeDate Dec 23/63Geo Ray

(Signature of Licensed Drilling or Boring Contractor)

Location of Well

In diagram below show distances of well from
road and lot line. Indicate north by arrow.

WEAVERS
CORNER

2885' 0'

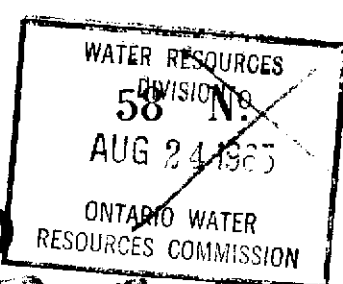
← 1 →

CORNWALL

UTM 18 520 540



316/2E



019

Elev. 9.5 9.9 0.9 7.5

The Ontario Water Resources Commission Act

WATER WELL RECORD

Basin 25 1.5 1.9 0

County or District 1.5 1.9 0

Township, Village, Town or City

Con. 4

Lot 4

Date completed 7 JULY 65

Address COANWALL

Casing and Screen Record

Inside diameter of casing 5
Total length of casing 38
Type of screen
Length of screen
Depth to top of screen
Diameter of finished hole 5

Pumping Test

Static level 15
Test-pumping rate 6 G.P.M.
Pumping level 15
Duration of test pumping 1 Hr
Water clear or cloudy at end of test
Recommended pumping rate 5 G.P.M.
with pump setting of 40 feet below ground surface

Well Log

Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
CC 19 7 1200 2000	0	38		
Limestone	38	55	50	FRESH

For what purpose(s) is the water to be used?

FARM

Is well on upland, in valley, or on hillside?

Drilling or Boring Firm

A Bourdon

Address COANWALL

Licence Number 1707

Name of Driller or Borer S. P. M. S.

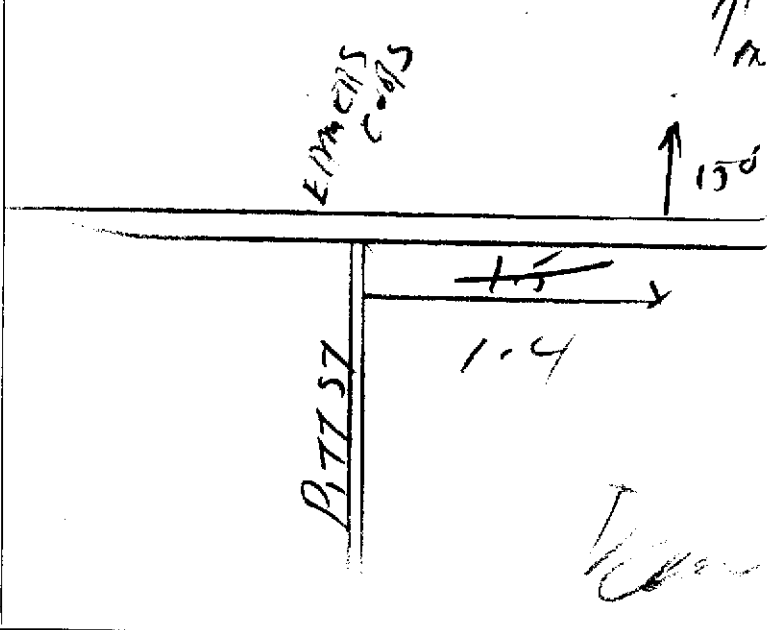
Address

Date

Arne Bourdon
(Signature of Licensed Drilling or Boring Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



MA

UTM 18 2 5 1 9 3 9 10 E

5 R 4 9 1 9 1 0 2 3 5 N

The Ontario Water Resources Commission Act

Elev. 5 R 0 1 9 1 5

WATER WELL RECORD

Basin 2 5 1 1 8 4

County or District Storming

Township, Village, Town or City Cornwall

Con. South Branch Rd Lot 2 2 to 4

Date completed 18 7 1964
(day month year)

ress. Eames Corner

Casing and Screen Record

Inside diameter of casing 5 inches
 Total length of casing 254 feet
 Type of screen
 Length of screen
 Depth to top of screen
 Diameter of finished hole 5 inches

Pumping Test

Static level 25
 Test-pumping rate 5 G.P.M.
 Pumping level 4.5
 Duration of test pumping 1 hour
 Water clear or cloudy at end of test clear
 Recommended pumping rate 5 G.P.M.
 with pump setting of 60 feet below ground surface

Well Log

Overburden and Bedrock Record

Clay and 130 lbs
 frag. Rock

From
ft.To
ft.

0
44

44
77

Depth(s) at
which water(s)
found

68

Kind of water
(fresh, salty,
sulphur)

fresh

For what purpose(s) is the water to be used? house

Is well on upland, in valley, or on hillside? Hillside

Drilling or Boring Firm

Address

Licence Number 12 42

Name of Driller or Borer Arlene Boudon

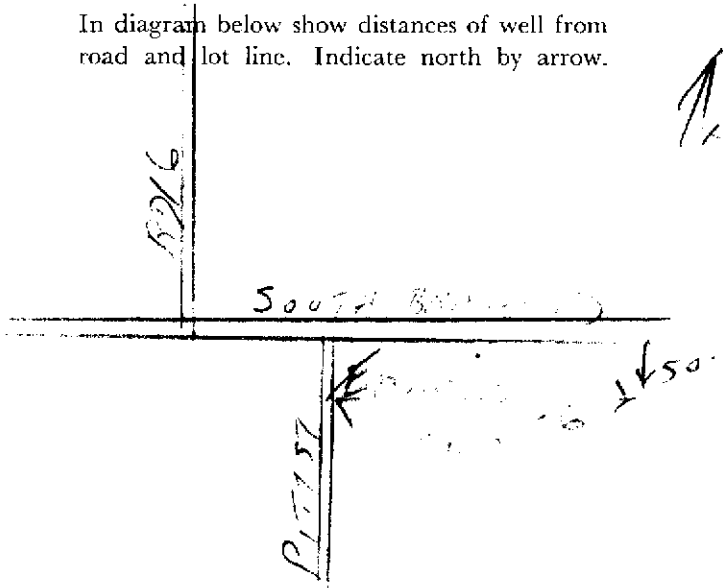
Address 20 Kennell Crescent Cornwall

Date 18 7 1964

Arlene Boudon
(Signature of Licensed Drilling or Boring Contractor)

Location of Well

In diagram below show distances of well from
road and lot line. Indicate north by arrow.



APPENDIX C

Pump Test Figures

Figure C-1
Pump Test #1 (TW10)
Groundwater Elevation vs. Time - Pumping Well TW10

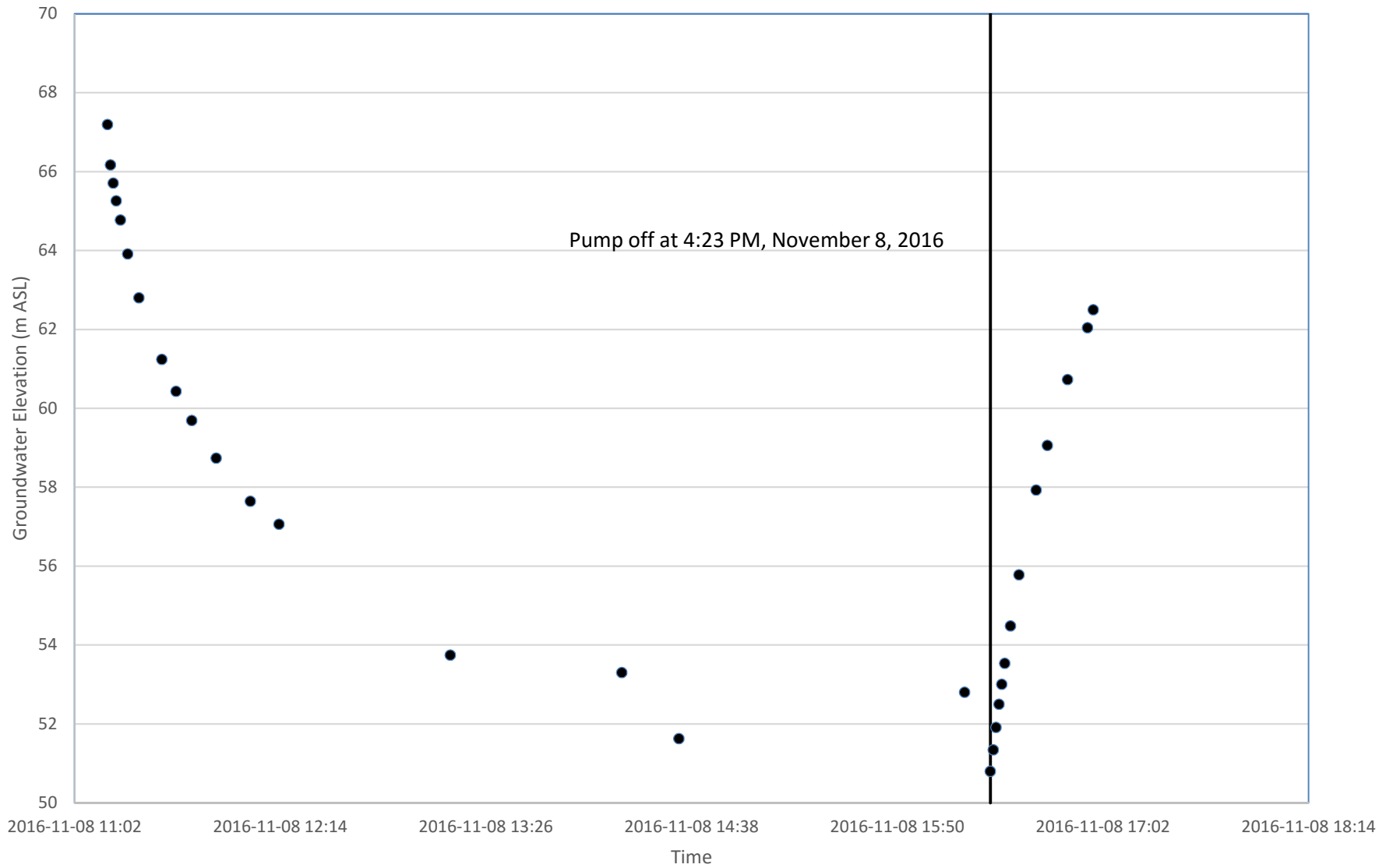


Figure C-2
Pump Test #1 (TW10)
Groundwater Elevation vs. Time - Observation Well TW8

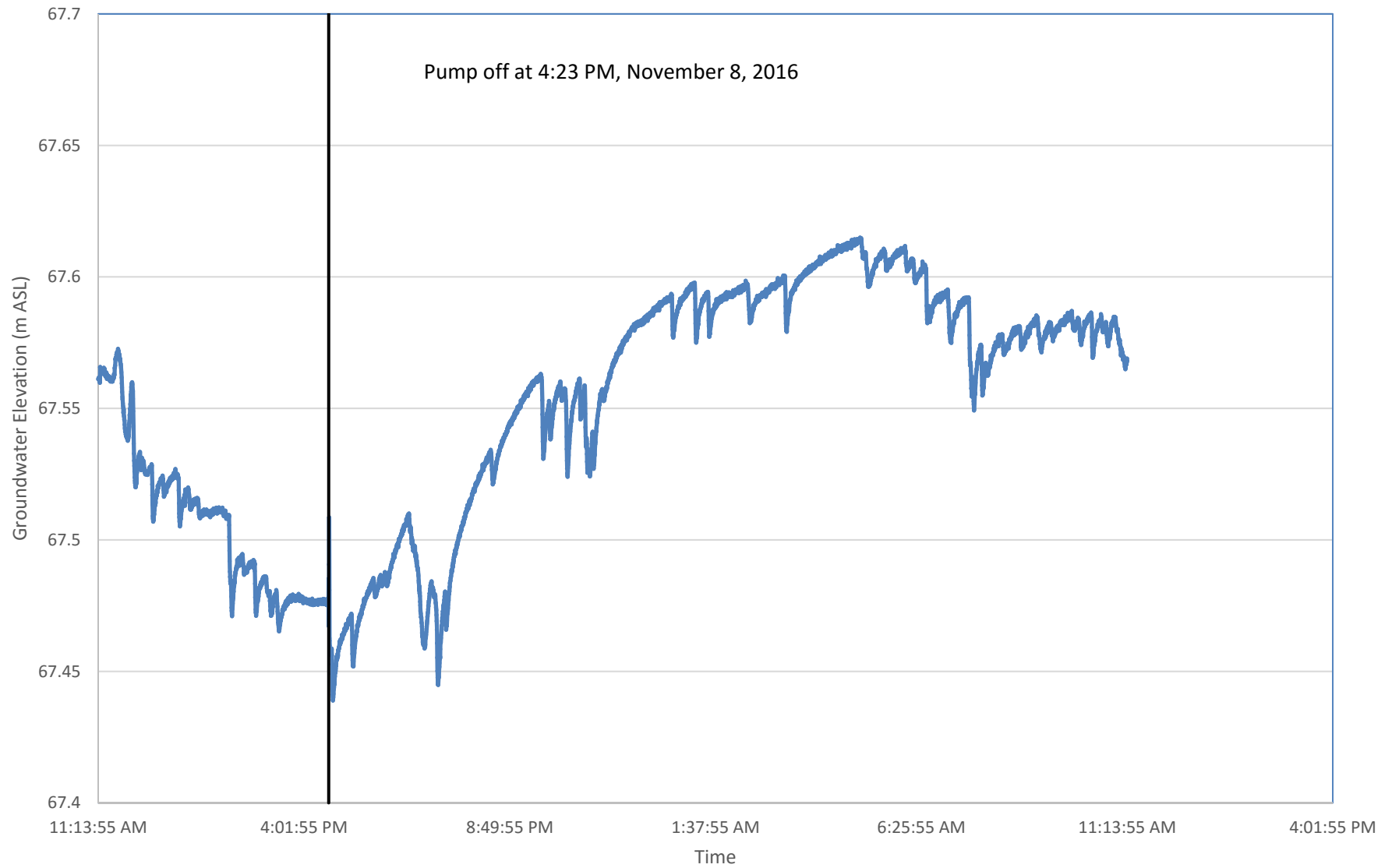


Figure C-3
Pump Test #1 (TW10)
Groundwater Elevation vs. Time - Observation Well TW9-1

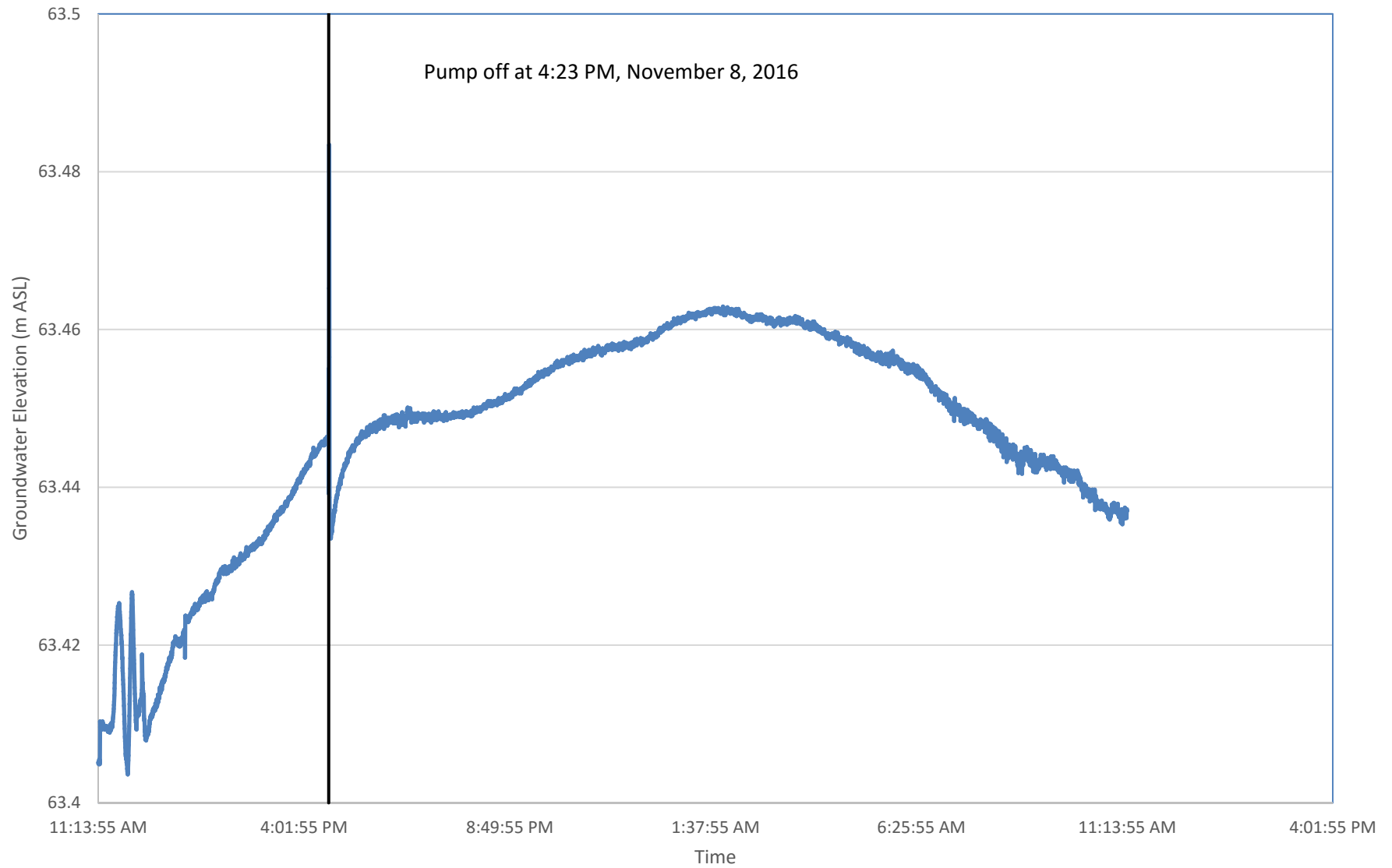


Figure C-4
Pump Test #1 (TW10)
Groundwater Elevation vs. Time - Observation Well TW9-2

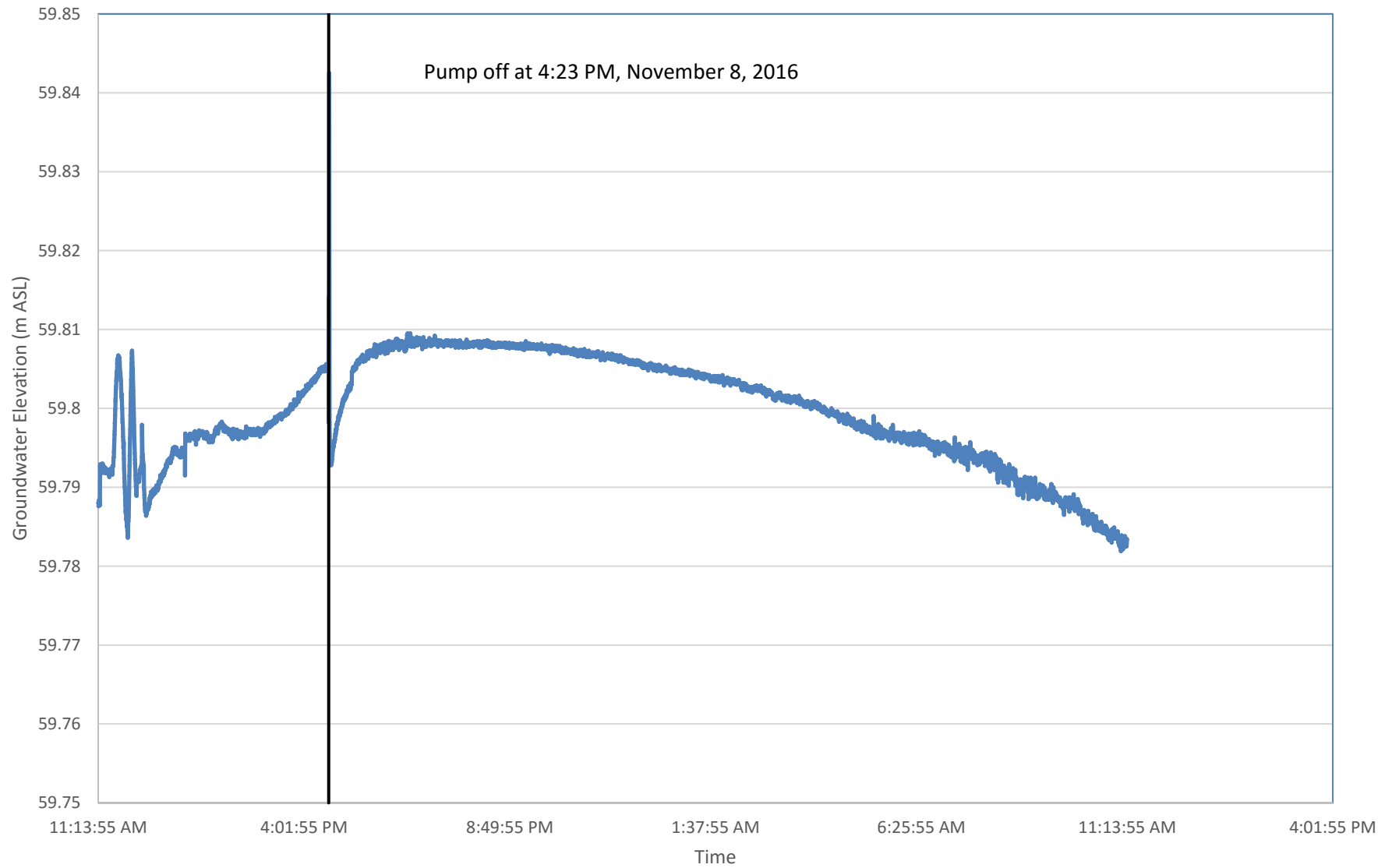


Figure C-5
Pump Test #1 (TW10)
Groundwater Elevation vs. Time - Observation Well TW13

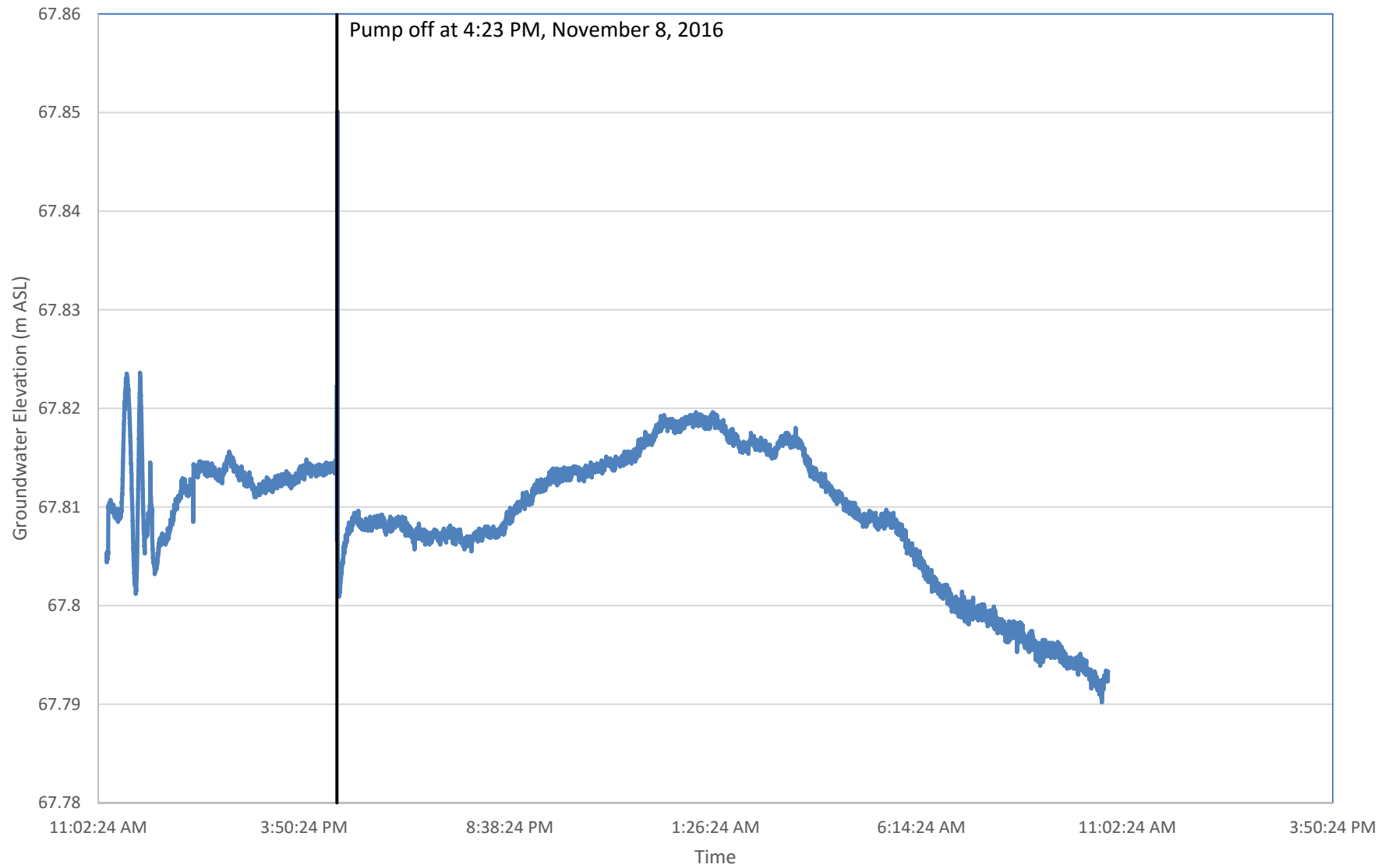


Figure C-6
Pump Test #2 (TW11-1)
Groundwater Elevation vs. Time - Pumping Well TW11-1

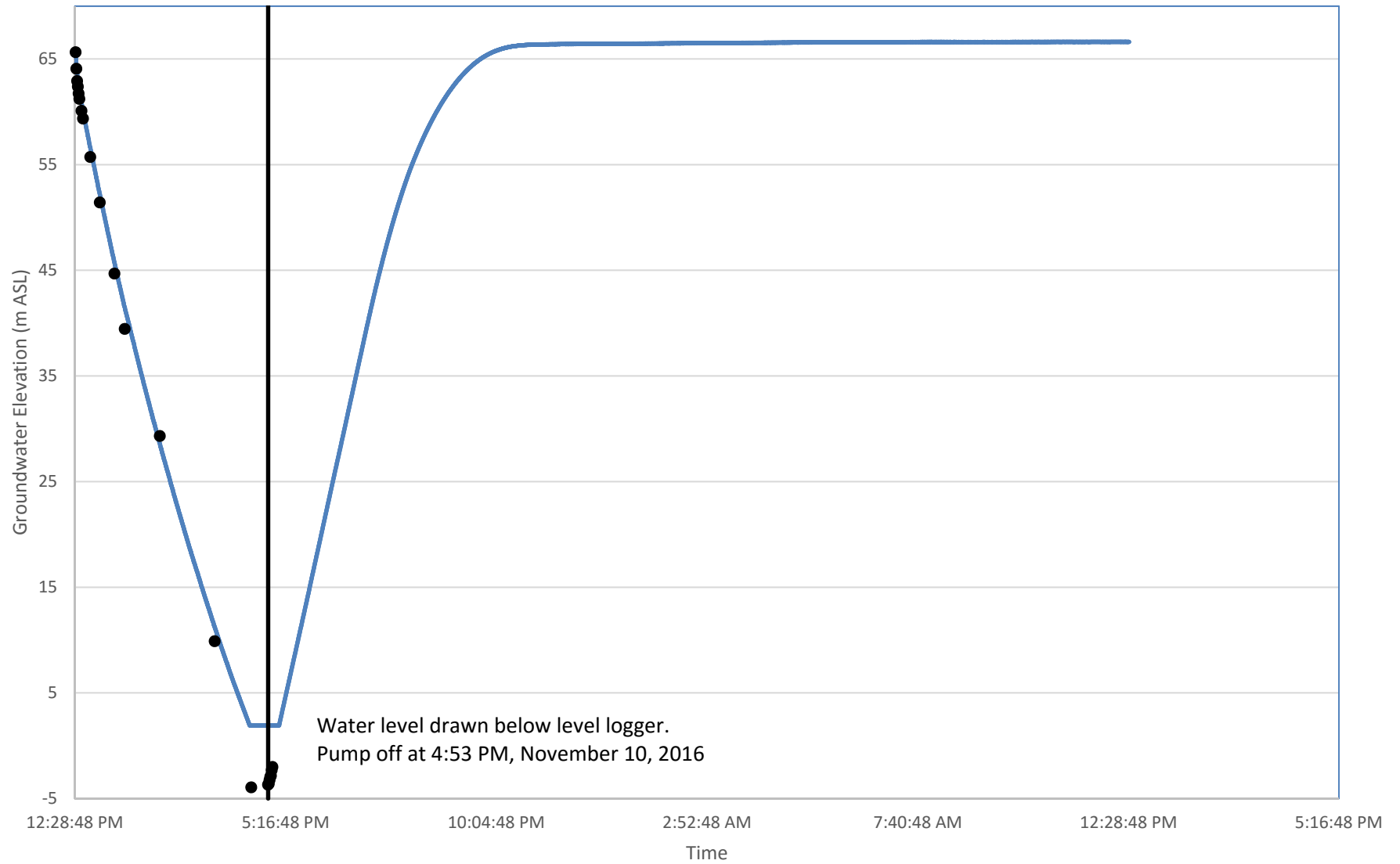


Figure C-7
Pump Test #2 (TW11-1)
Groundwater Elevation vs. Time - Observation Well TW3-1

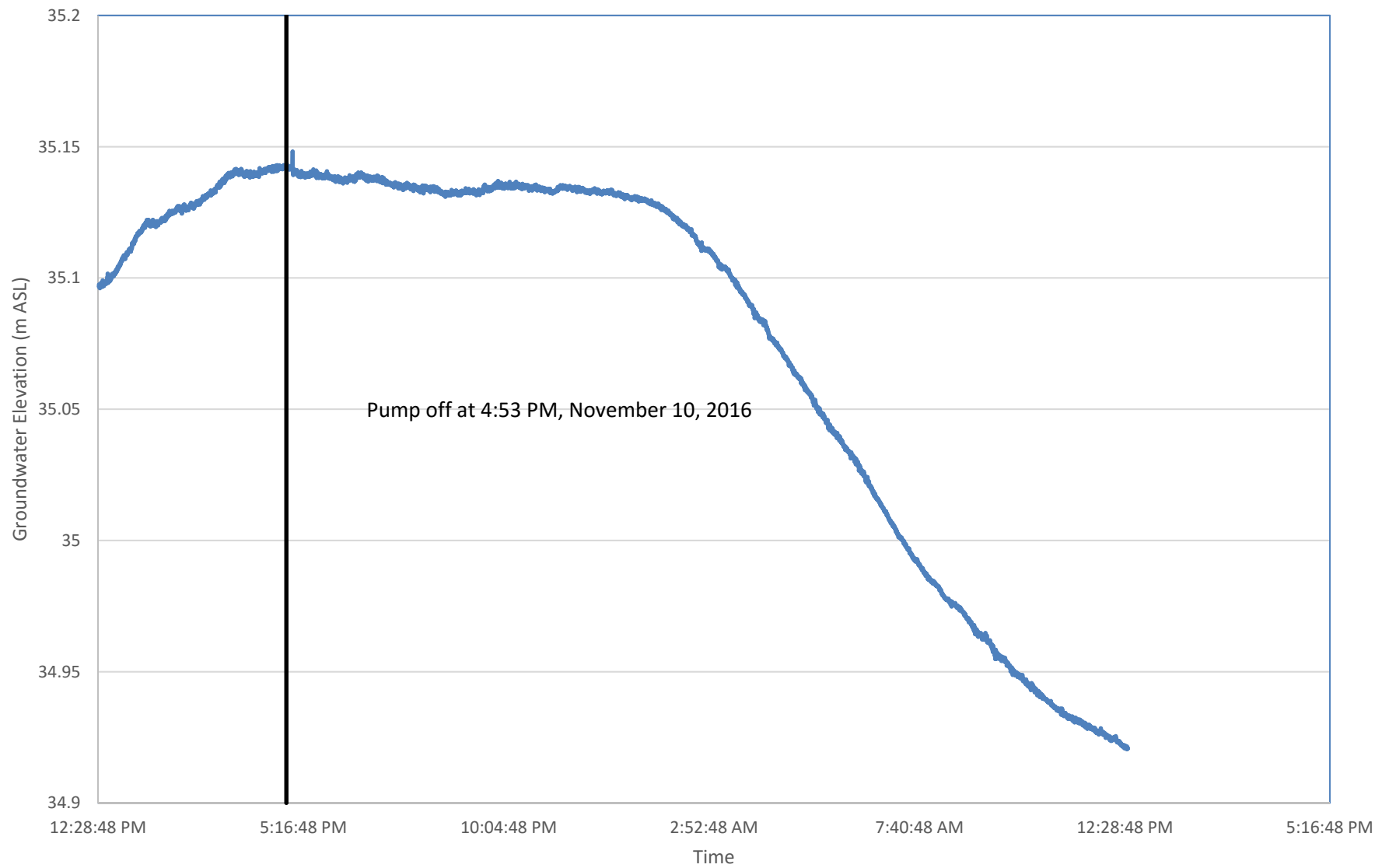


Figure C-8
Pump Test #2 (TW11-1)
Groundwater Elevation vs. Time - Observation Well TW11-2

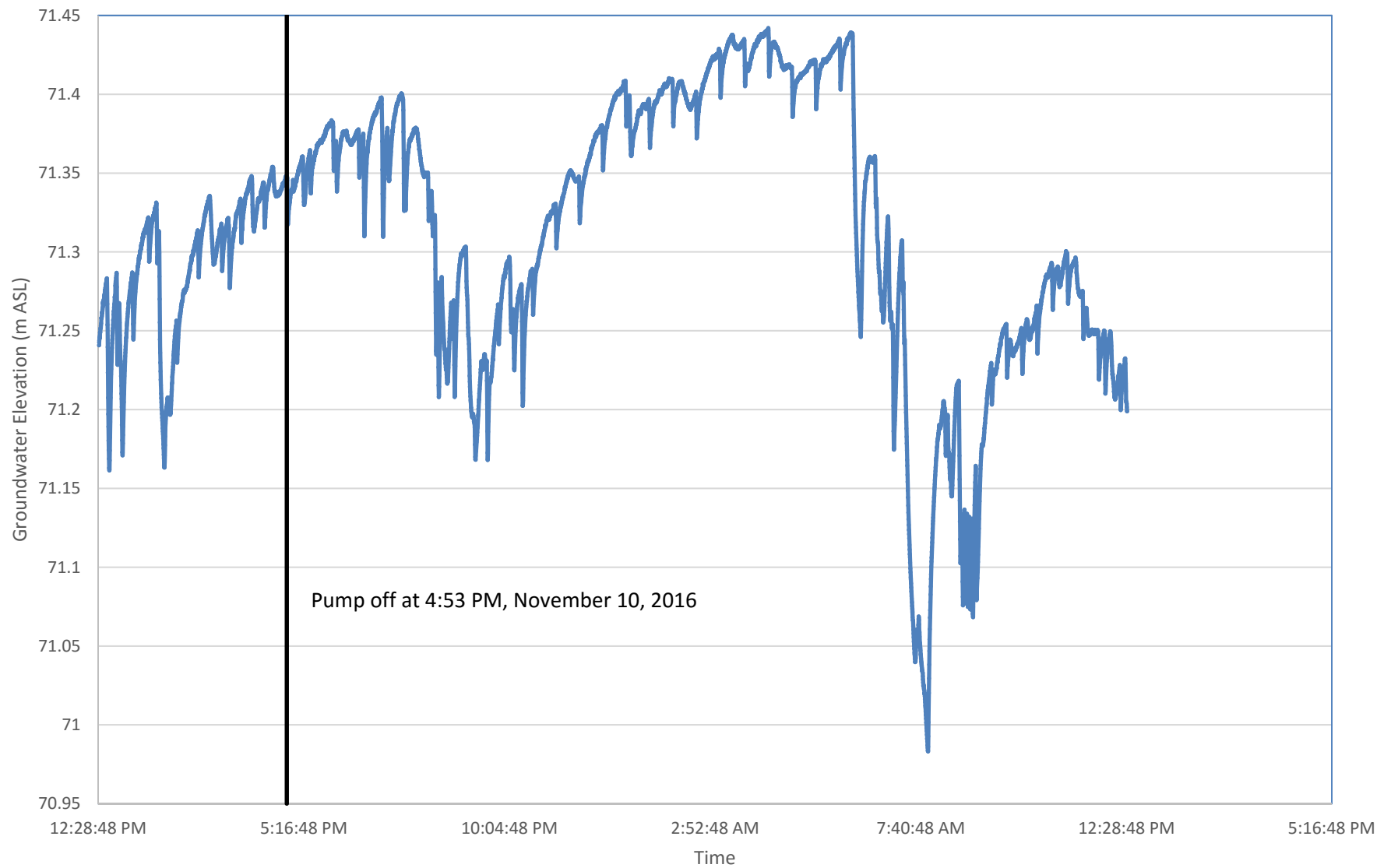


Figure C-9
Pump Test #2 (TW11-1)
Groundwater Elevation vs. Time - Observation Well TW11-3

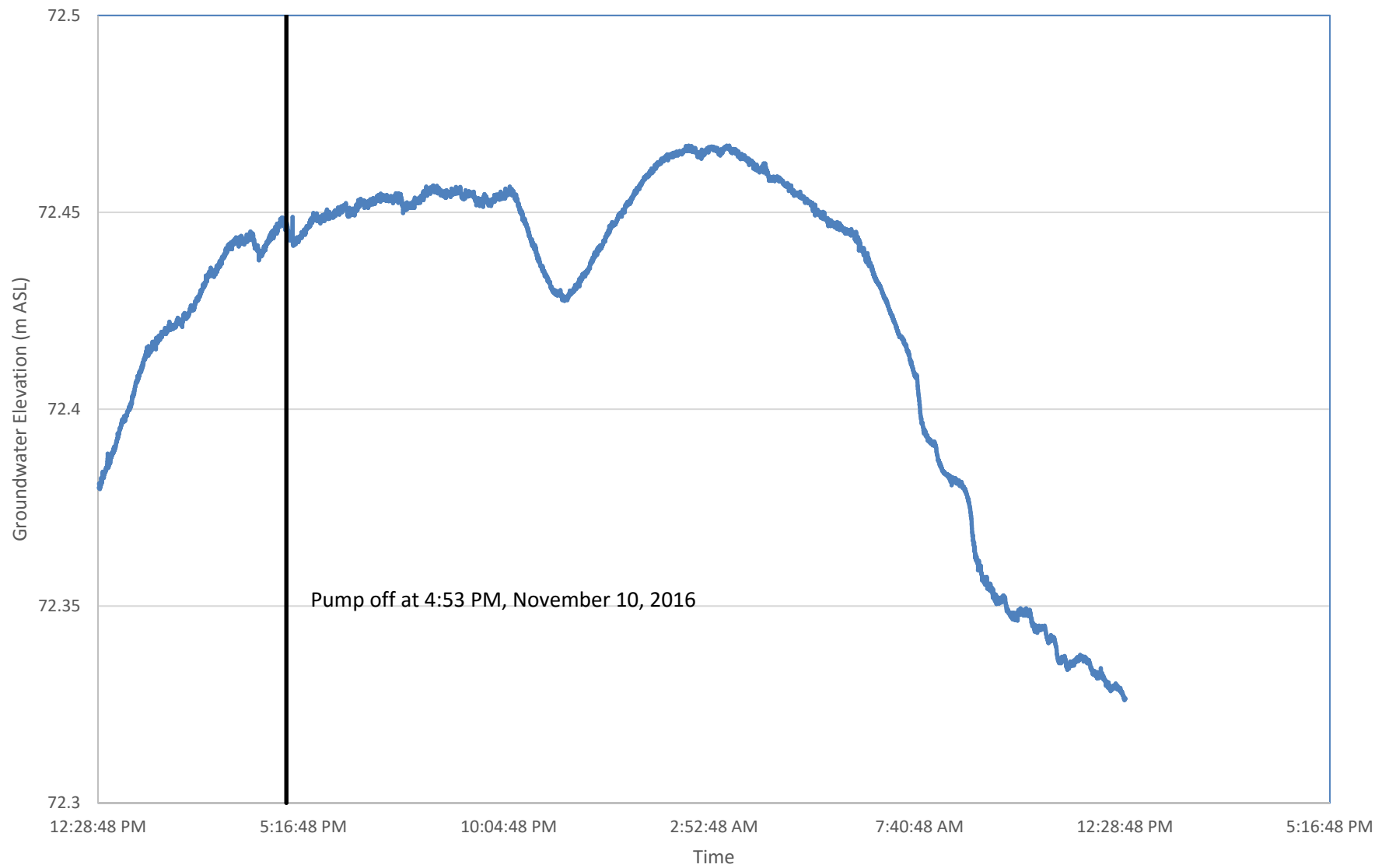


Figure C-10
Pump Test #2 (TW11-1)
Groundwater Elevation vs. Time - Observation Well TW12

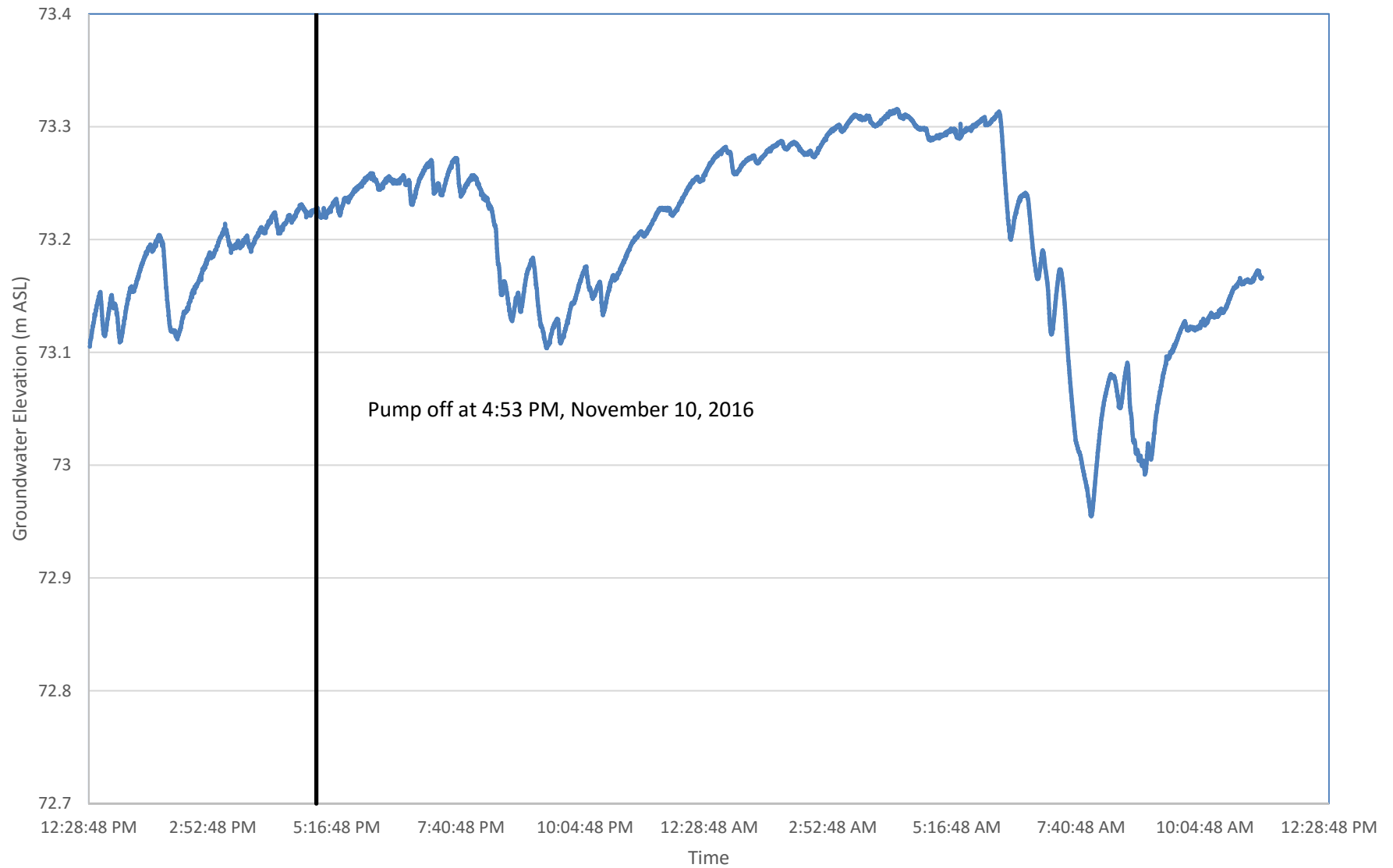
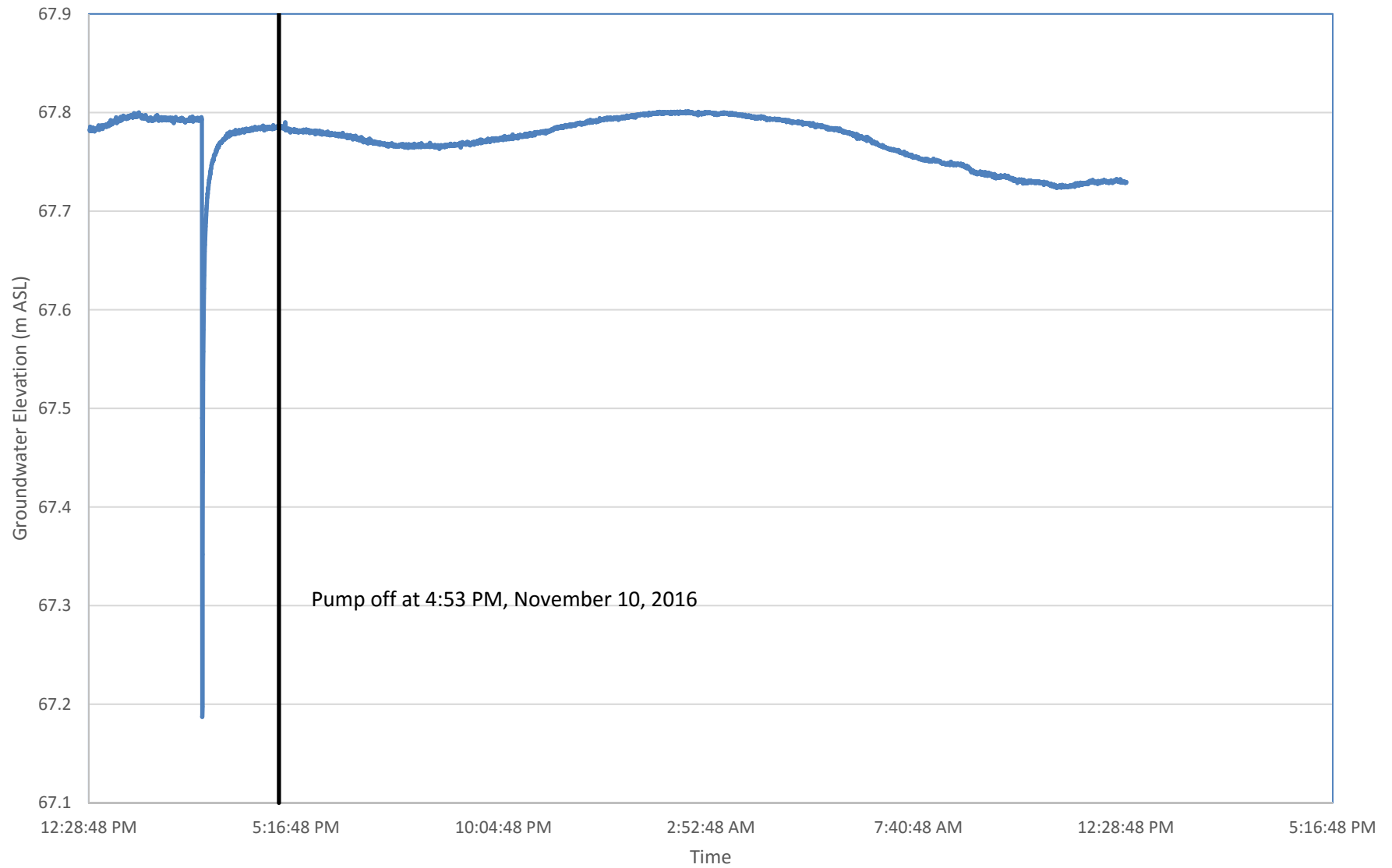


Figure C-11
Pump Test #2 (TW11-1)
Groundwater Elevation vs. Time - Observation Well 'Scalehouse Well'



APPENDIX D

Hydraulic Conductivity Testing Results

Theis

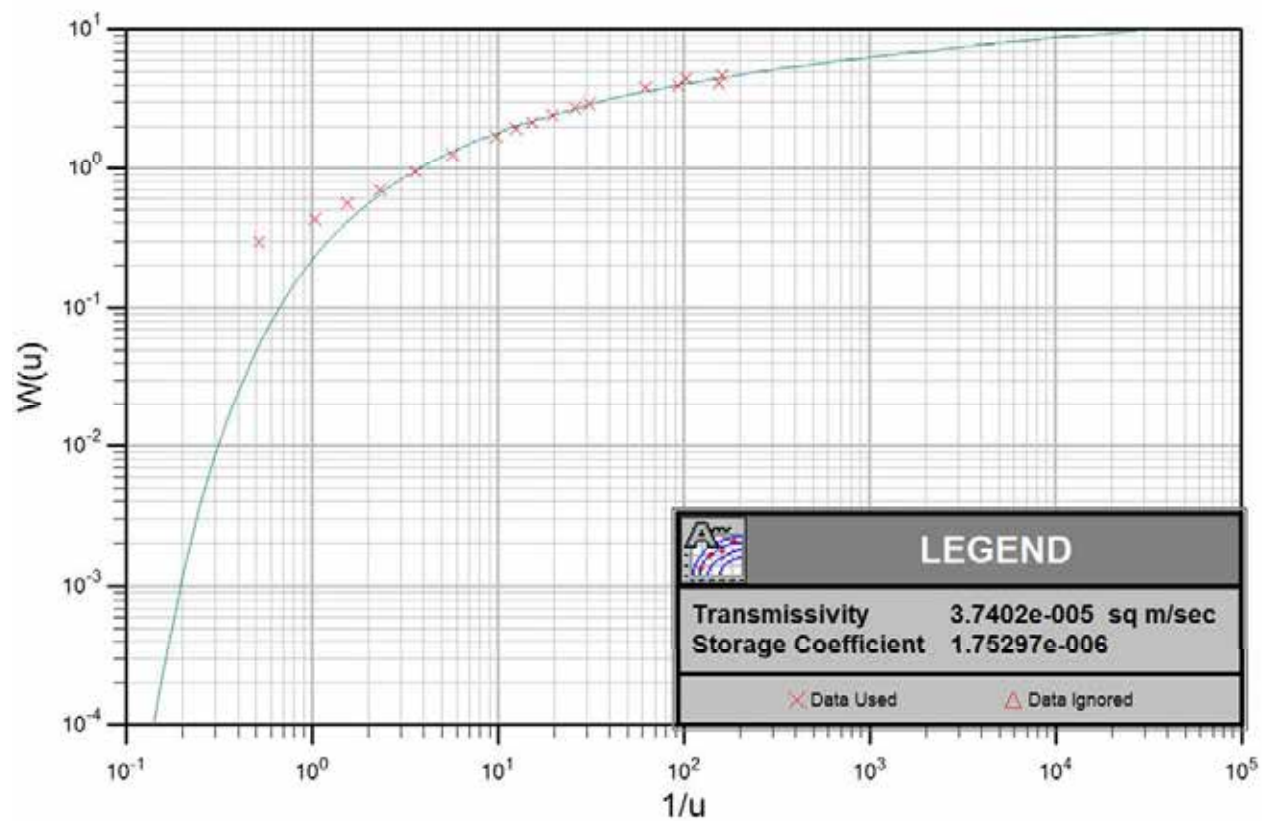


Figure D-1: Theis Analysis, TW10

Cooper and Jacob

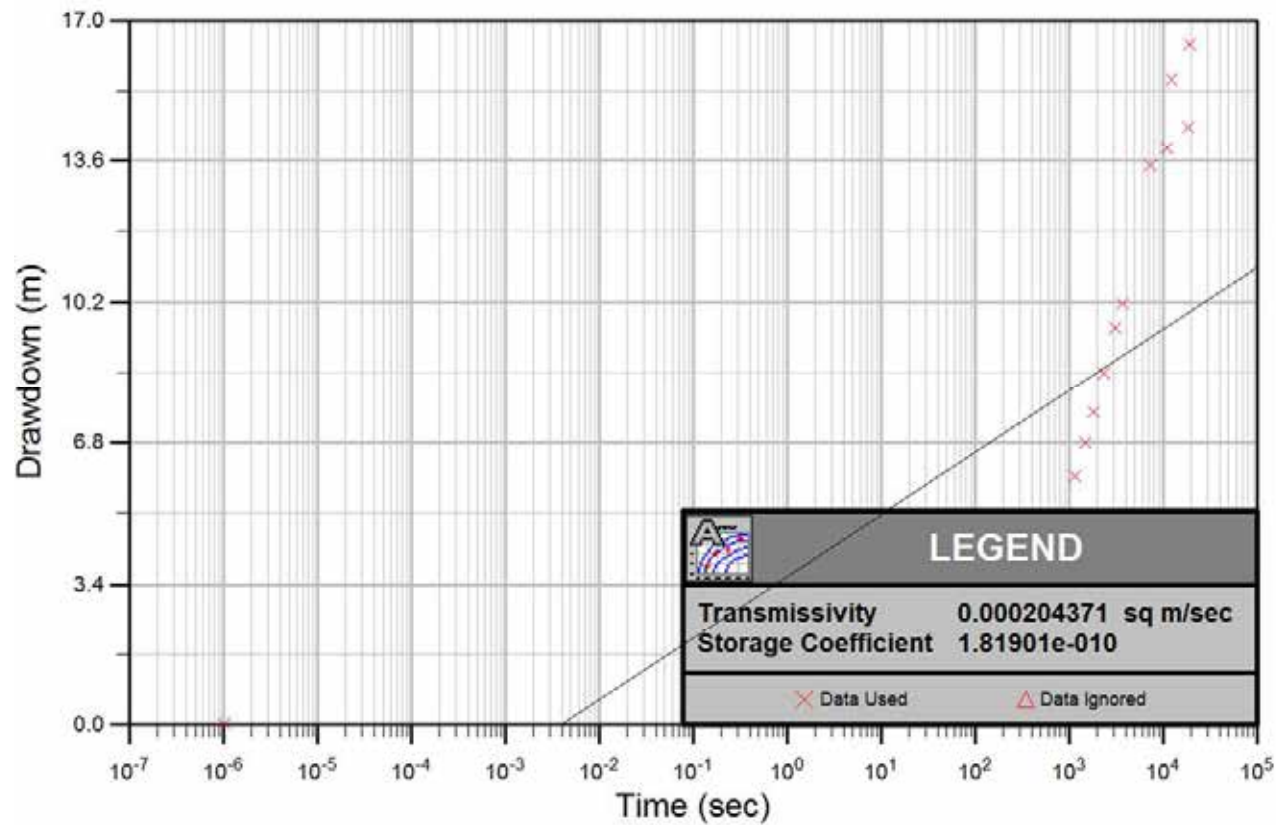


Figure D-2: Cooper-Jacob Analysis, TW10

Theis

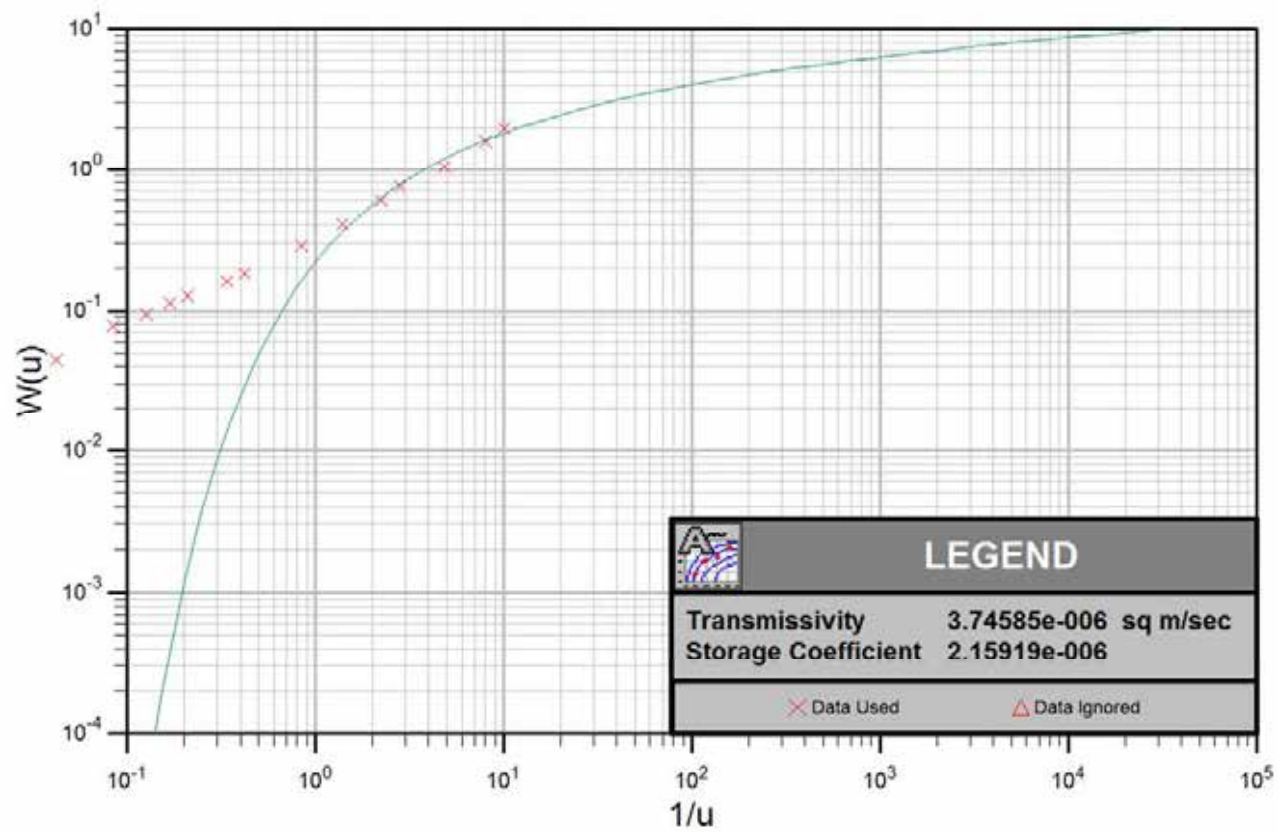


Figure D-3: Theis Analysis, TW11-1

Cooper and Jacob

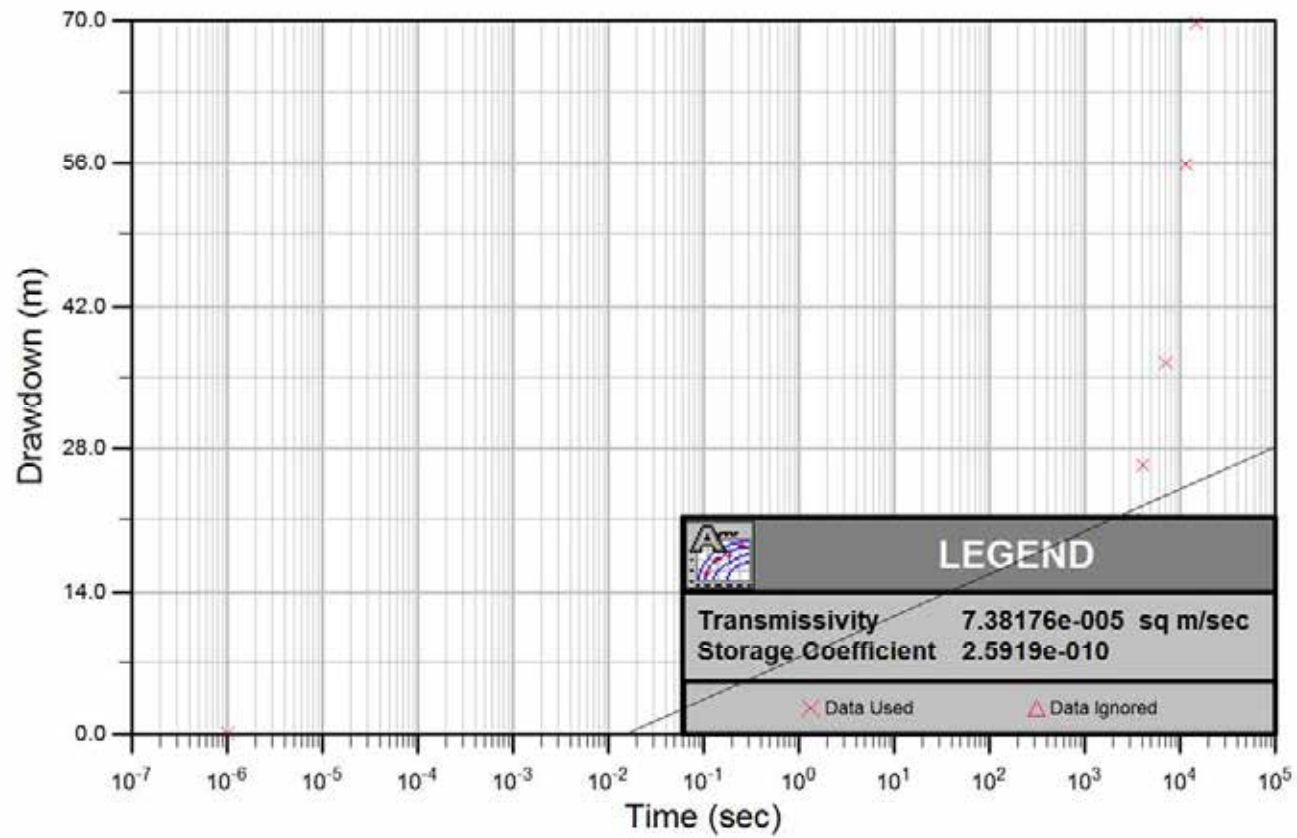


Figure D-4: Cooper-Jacob Analysis, TW11-1

APPENDIX E

Laboratory Certificates of Analysis (Water Quality Results)

Certificate of Analysis

McIntosh Perry Consulting Eng. (Carp)

115 Walgreen Rd.
RR#3 Carp, ON K0A 1L0
Attn: Jordan Bowman

Client PO: 16.0280
Project: 16.0280
Custody: 33125

Report Date: 18-Nov-2016
Order Date: 11-Nov-2016

Order #: 1646386

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1646386-01	TW11-I-1
1646386-02	TW11-I-2

Approved By:



Mark Foto, M.Sc.
Lab Supervisor

Certificate of Analysis

Report Date: 18-Nov-2016

Client: McIntosh Perry Consulting Eng. (Carp)

Order Date: 11-Nov-2016

Client PO: 16.0280

Project Description: 16.0280

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Alkalinity, total to pH 4.5	EPA 310.1 - Titration to pH 4.5	11-Nov-16	11-Nov-16
Ammonia, as N	EPA 351.2 - Auto Colour	18-Nov-16	18-Nov-16
Anions	EPA 300.1 - IC	14-Nov-16	14-Nov-16
Colour	SM2120 - Spectrophotometric	11-Nov-16	11-Nov-16
Conductivity	EPA 9050A- probe @25 °C	11-Nov-16	11-Nov-16
Dissolved Organic Carbon	MOE E3247B - Combustion IR, filtration	14-Nov-16	16-Nov-16
E. coli	MOE E3407	11-Nov-16	11-Nov-16
Fecal Coliform	SM 9222D	11-Nov-16	11-Nov-16
Heterotrophic Plate Count	SM 9215C	12-Nov-16	12-Nov-16
Metals, ICP-MS	EPA 200.8 - ICP-MS	15-Nov-16	16-Nov-16
pH	EPA 150.1 - pH probe @25 °C	11-Nov-16	11-Nov-16
Phenolics	EPA 420.2 - Auto Colour, 4AAP	16-Nov-16	16-Nov-16
Subdivision Package	Hardness as CaCO ₃	15-Nov-16	15-Nov-16
Sulphide	SM 4500SE - Colourimetric	14-Nov-16	15-Nov-16
Tannin/Lignin	SM 5550B - Colourimetric	14-Nov-16	14-Nov-16
Total Coliform	MOE E3407	11-Nov-16	11-Nov-16
Total Dissolved Solids	SM 2540C - gravimetric, filtration	15-Nov-16	16-Nov-16
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	14-Nov-16	15-Nov-16
Turbidity	SM 2130B - Turbidity meter	11-Nov-16	11-Nov-16

Certificate of Analysis

Report Date: 18-Nov-2016

Client: McIntosh Perry Consulting Eng. (Carp)

Order Date: 11-Nov-2016

Client PO: 16.0280

Project Description: 16.0280

Client ID:	TW11-I-1	TW11-I-2	-	-
Sample Date:	10-Nov-16	10-Nov-16	-	-
Sample ID:	1646386-01	1646386-02	-	-
MDL/Units	Water	Water	-	-

Microbiological Parameters

E. coli	1 CFU/100 mL	<10 [1]	ND	-	-
Fecal Coliforms	1 CFU/100 mL	<10 [1]	ND	-	-
Total Coliforms	1 CFU/100 mL	<10 [1]	1	-	-
Heterotrophic Plate Count	10 CFU/mL	10	30	-	-

General Inorganics

Alkalinity, total	5 mg/L	272	287	-	-
Ammonia as N	0.01 mg/L	0.82	0.49	-	-
Dissolved Organic Carbon	0.5 mg/L	2.3	2.5	-	-
Colour	2 TCU	<2	<2	-	-
Conductivity	5 uS/cm	1740	821	-	-
Hardness	mg/L	175	129	-	-
pH	0.1 pH Units	8.2	8.3	-	-
Phenolics	0.001 mg/L	<0.001	<0.001	-	-
Total Dissolved Solids	10 mg/L	902	430	-	-
Sulphide	0.02 mg/L	0.86	0.78	-	-
Tannin & Lignin	0.1 mg/L	0.1	<0.1	-	-
Total Kjeldahl Nitrogen	0.1 mg/L	0.8	0.5	-	-
Turbidity	0.1 NTU	151	37.8	-	-

Anions

Chloride	1 mg/L	383	76	-	-
Fluoride	0.1 mg/L	0.5	0.4	-	-
Nitrate as N	0.1 mg/L	<0.1	<0.1	-	-
Nitrite as N	0.05 mg/L	<0.05	<0.05	-	-
Sulphate	1 mg/L	36	31	-	-

Metals

Calcium	100 ug/L	28300	20700	-	-
Iron	100 ug/L	12700	1050	-	-
Magnesium	200 ug/L	25300	18800	-	-
Manganese	5 ug/L	79	22	-	-
Potassium	100 ug/L	10500	6520	-	-
Sodium	200 ug/L	251000	106000	-	-

Certificate of Analysis

Report Date: 18-Nov-2016

Client: McIntosh Perry Consulting Eng. (Carp)

Order Date: 11-Nov-2016

Client PO: 16.0280

Project Description: 16.0280

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	ND	1	mg/L						
Fluoride	ND	0.1	mg/L						
Nitrate as N	ND	0.1	mg/L						
Nitrite as N	ND	0.05	mg/L						
Sulphate	ND	1	mg/L						
General Inorganics									
Alkalinity, total	ND	5	mg/L						
Ammonia as N	ND	0.01	mg/L						
Dissolved Organic Carbon	ND	0.5	mg/L						
Colour	ND	2	TCU						
Conductivity	ND	5	uS/cm						
Phenolics	ND	0.001	mg/L						
Total Dissolved Solids	ND	10	mg/L						
Sulphide	ND	0.02	mg/L						
Tannin & Lignin	ND	0.1	mg/L						
Total Kjeldahl Nitrogen	ND	0.1	mg/L						
Turbidity	ND	0.1	NTU						
Metals									
Calcium	ND	100	ug/L						
Iron	ND	100	ug/L						
Magnesium	ND	200	ug/L						
Manganese	ND	5	ug/L						
Potassium	ND	100	ug/L						
Sodium	ND	200	ug/L						
Microbiological Parameters									
E. coli	ND	1	CFU/100 mL						
Fecal Coliforms	ND	1	CFU/100 mL						
Total Coliforms	ND	1	CFU/100 mL						
Heterotrophic Plate Count	ND	10	CFU/mL						

Certificate of Analysis

Report Date: 18-Nov-2016

Client: McIntosh Perry Consulting Eng. (Carp)

Order Date: 11-Nov-2016

Client PO: 16.0280

Project Description: 16.0280

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	36.9	1	mg/L	36.9			0.1	10	
Fluoride	0.40	0.1	mg/L	0.38			4.5	10	
Nitrate as N	ND	0.1	mg/L	ND				20	
Nitrite as N	ND	0.05	mg/L	ND				20	
Sulphate	49.4	1	mg/L	49.4			0.2	10	
General Inorganics									
Alkalinity, total	366	5	mg/L	367			0.2	14	
Ammonia as N	0.097	0.01	mg/L	0.088			9.7	8	QR-01
Dissolved Organic Carbon	0.7	0.5	mg/L	ND			0.0	37	
Colour	ND	2	TCU	ND				12	
Conductivity	749	5	uS/cm	752			0.4	11	
pH	7.7	0.1	pH Units	7.6			0.9	10	
Phenolics	ND	0.001	mg/L	ND				10	
Total Dissolved Solids	340	10	mg/L	344			1.2	10	
Sulphide	ND	0.02	mg/L	ND				10	
Tannin & Lignin	0.1	0.1	mg/L	0.1			9.4	11	
Total Kjeldahl Nitrogen	ND	0.1	mg/L	ND				10	
Turbidity	153	0.1	NTU	151			1.3	10	
Metals									
Calcium	32000	100	ug/L	32200			0.7	20	
Iron	ND	100	ug/L	ND			0.0	20	
Magnesium	8520	200	ug/L	8510			0.1	20	
Manganese	ND	5	ug/L	ND			0.0	20	
Potassium	1680	100	ug/L	1680			0.2	20	
Sodium	15500	200	ug/L	15500			0.1	20	
Microbiological Parameters									
E. coli	ND	10	CFU/100 mL	ND				30	BAC09
Fecal Coliforms	ND	10	CFU/100 mL	ND				30	BAC09
Total Coliforms	ND	10	CFU/100 mL	ND				30	BAC09
Heterotrophic Plate Count	ND	10	CFU/mL	10			0.0	30	

Certificate of Analysis

Report Date: 18-Nov-2016

Client: McIntosh Perry Consulting Eng. (Carp)

Order Date: 11-Nov-2016

Client PO: 16.0280

Project Description: 16.0280

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	46.4	1	mg/L	36.9	95.9	78-112			
Fluoride	1.27	0.1	mg/L	0.38	88.8	73-113			
Nitrate as N	0.92	0.1	mg/L	ND	91.6	81-112			
Nitrite as N	0.950	0.05	mg/L	ND	95.0	76-117			
Sulphate	59.1	1	mg/L	49.4	97.1	75-111			
General Inorganics									
Ammonia as N	0.346	0.01	mg/L	0.088	103	81-124			
Dissolved Organic Carbon	9.3	0.5	mg/L	2.7	65.3	60-133			
Phenolics	0.024	0.001	mg/L	ND	97.6	69-132			
Total Dissolved Solids	102	10	mg/L		102	75-125			
Sulphide	0.48	0.02	mg/L	ND	97.0	79-115			
Tannin & Lignin	1.1	0.1	mg/L	0.1	102	71-113			
Total Kjeldahl Nitrogen	1.81	0.1	mg/L	ND	90.3	81-126			
Metals									
Calcium	925		ug/L	ND	89.9	80-120			
Iron	919		ug/L	ND	90.2	80-120			
Magnesium	9090		ug/L	8510	57.9	80-120			QM-07
Manganese	49.0		ug/L	ND	96.0	80-120			
Potassium	2510		ug/L	1680	82.9	80-120			
Sodium	931		ug/L	ND	86.0	80-120			

Certificate of Analysis

Client: McIntosh Perry Consulting Eng. (Carp)

Client PO: 16.0280

Report Date: 18-Nov-2016

Order Date: 11-Nov-2016

Project Description: 16.0280

Qualifier Notes:***Login Qualifiers :***

Sample preserved upon receipt at the lab.

*Applies to samples: TW11-I-1, TW11-I-2****Sample Qualifiers :***

1 : Bacteria sample was diluted due to suspended particulate matter.

QC Qualifiers :

QM-07 : The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

QR-01 : Duplicate RPD is high, however, the sample result is less than 10x the MDL.

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

Client Name: <u>MPL</u>	Project Reference: <u>16-0280</u>	Turnaround Time: <input type="checkbox"/> 1 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> 2 Day <input checked="" type="checkbox"/> Regular Date Required: _____
Contact Name: <u>J. Bowman</u>	Quote # <u>Standing Offer</u>	
Address: <u>115 Walsgreen Rd.</u> <u>WILSON COA 1L6</u>	PO # <u>16-0280</u>	
Telephone: <u>613 224 9528</u>	Email Address: <u>j.bowman@mcintyre-harty.com</u> <u>garrett@mcintyre-harty.com</u>	

Criteria: ☐ O. Reg. 153/04 (As Amended) Table ☐ RSC Filing ☐ O. Reg. 558/00 ☐ CCME ☐ SUB (Storm) ☐ SUB (Sanitary) Municipality: _____ ☐ Other: DDWS

Matrix Type: S (Soil Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Required Analyses

Paracel Order Number:		Matrix	Air Volume	# of Containers	Sample Taken		Signature											
Sample ID/Location Name					Date	Time												
1	TW11-I-1	GW	/	✓	10-Nov-2016	17:30	X											
2	TW11-I-2	GW	/	✓	10-Nov-2016	16:30	X											
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments: Metals preservative ringed out.

Method of Delivery:

Paracel

Relinquished By (Sign): <u>[Signature]</u>	Received by Driver/Depot: <u>[Signature]</u>	Received at Lab: <u>OMEPORN DOKMAI</u>	Verified By: <u>Rachel Subject</u>
Relinquished By (Print): <u>A. Bowman</u>	Date/Time: <u>11/11/16 11:40 AM</u>	Date/Time: <u>11/11/2016 12:58</u>	Date/Time: <u>NOV 11/16</u>
Date/Time: <u>11-Nov-2016 09:30</u>	Temperature: <u> </u> °C	Temperature: <u>3.2</u> °C	pH Verified By: <u>KS</u> <u>1:56</u>

Certificate of Analysis

McIntosh Perry Consulting Eng. (Carp)

115 Walgreen Rd.
RR#3 Carp, ON K0A 1L0
Attn: Jordan Bowman

Client PO:
Project: 16-0280
Custody: 33124

Report Date: 17-Nov-2016
Order Date: 9-Nov-2016

Order #: 1646210

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1646210-01	TW10-1
1646210-02	TW10-2

Approved By:



Mark Foto, M.Sc.
Lab Supervisor

Certificate of Analysis

Report Date: 17-Nov-2016

Client: McIntosh Perry Consulting Eng. (Carp)

Order Date: 9-Nov-2016

Client PO:

Project Description: 16-0280

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Alkalinity, total to pH 4.5	EPA 310.1 - Titration to pH 4.5	10-Nov-16	10-Nov-16
Ammonia, as N	EPA 351.2 - Auto Colour	17-Nov-16	17-Nov-16
Anions	EPA 300.1 - IC	9-Nov-16	11-Nov-16
Colour	SM2120 - Spectrophotometric	9-Nov-16	9-Nov-16
Conductivity	EPA 9050A- probe @25 °C	10-Nov-16	10-Nov-16
Dissolved Organic Carbon	MOE E3247B - Combustion IR, filtration	14-Nov-16	15-Nov-16
E. coli	MOE E3407	9-Nov-16	9-Nov-16
Fecal Coliform	SM 9222D	9-Nov-16	9-Nov-16
Heterotrophic Plate Count	SM 9215C	9-Nov-16	9-Nov-16
Metals, ICP-MS	EPA 200.8 - ICP-MS	14-Nov-16	15-Nov-16
pH	EPA 150.1 - pH probe @25 °C	10-Nov-16	10-Nov-16
Phenolics	EPA 420.2 - Auto Colour, 4AAP	14-Nov-16	14-Nov-16
Subdivision Package	Hardness as CaCO ₃	14-Nov-16	15-Nov-16
Sulphide	SM 4500SE - Colourimetric	14-Nov-16	15-Nov-16
Tannin/Lignin	SM 5550B - Colourimetric	9-Nov-16	9-Nov-16
Total Coliform	MOE E3407	9-Nov-16	9-Nov-16
Total Dissolved Solids	SM 2540C - gravimetric, filtration	11-Nov-16	14-Nov-16
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	14-Nov-16	15-Nov-16
Turbidity	SM 2130B - Turbidity meter	9-Nov-16	9-Nov-16

Certificate of Analysis

Report Date: 17-Nov-2016

Client: McIntosh Perry Consulting Eng. (Carp)

Order Date: 9-Nov-2016

Client PO:

Project Description: 16-0280

Client ID:	TW10-1	TW10-2	-	-
Sample Date:	08-Nov-16	08-Nov-16	-	-
Sample ID:	1646210-01	1646210-02	-	-
MDL/Units	Water	Water	-	-

Microbiological Parameters

E. coli	1 CFU/100 mL	<10 [1] [2]	<10 [1]	-	-
Fecal Coliforms	1 CFU/100 mL	<10 [1] [2]	<10 [1]	-	-
Total Coliforms	1 CFU/100 mL	<10 [1] [2]	<10 [1]	-	-
Heterotrophic Plate Count	10 CFU/mL	220	60	-	-

General Inorganics

Alkalinity, total	5 mg/L	287	279	-	-
Ammonia as N	0.01 mg/L	0.42	0.60	-	-
Dissolved Organic Carbon	0.5 mg/L	2.0	1.8	-	-
Colour	2 TCU	22	7	-	-
Conductivity	5 uS/cm	1380	720	-	-
Hardness	mg/L	17	100	-	-
pH	0.1 pH Units	8.5	8.2	-	-
Phenolics	0.001 mg/L	0.004	<0.001	-	-
Total Dissolved Solids	10 mg/L	780	420	-	-
Sulphide	0.02 mg/L	0.23	4.54	-	-
Tannin & Lignin	0.1 mg/L	0.4	0.8	-	-
Total Kjeldahl Nitrogen	0.1 mg/L	0.5	0.6	-	-
Turbidity	0.1 NTU	92.4	58.4	-	-

Anions

Chloride	1 mg/L	256	45	-	-
Fluoride	0.1 mg/L	0.8	0.4	-	-
Nitrate as N	0.1 mg/L	<0.1	<0.1	-	-
Nitrite as N	0.05 mg/L	<0.05	<0.05	-	-
Sulphate	1 mg/L	33	37	-	-

Metals

Calcium	100 ug/L	3680	16500	-	-
Iron	100 ug/L	270	<100	-	-
Magnesium	200 ug/L	1990	14200	-	-
Manganese	5 ug/L	<5	11	-	-
Potassium	100 ug/L	5640	6830	-	-
Sodium	200 ug/L	274000	96200	-	-

Certificate of Analysis

Report Date: 17-Nov-2016

Client: McIntosh Perry Consulting Eng. (Carp)

Order Date: 9-Nov-2016

Client PO:

Project Description: 16-0280

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	ND	1	mg/L						
Fluoride	ND	0.1	mg/L						
Nitrate as N	ND	0.1	mg/L						
Nitrite as N	ND	0.05	mg/L						
Sulphate	ND	1	mg/L						
General Inorganics									
Alkalinity, total	ND	5	mg/L						
Ammonia as N	ND	0.01	mg/L						
Dissolved Organic Carbon	ND	0.5	mg/L						
Colour	ND	2	TCU						
Conductivity	ND	5	uS/cm						
Phenolics	ND	0.001	mg/L						
Total Dissolved Solids	ND	10	mg/L						
Sulphide	ND	0.02	mg/L						
Tannin & Lignin	ND	0.1	mg/L						
Total Kjeldahl Nitrogen	ND	0.1	mg/L						
Turbidity	ND	0.1	NTU						
Metals									
Calcium	ND	100	ug/L						
Iron	ND	100	ug/L						
Magnesium	ND	200	ug/L						
Manganese	ND	5	ug/L						
Potassium	ND	100	ug/L						
Sodium	ND	200	ug/L						
Microbiological Parameters									
E. coli	ND	1	CFU/100 mL						
Fecal Coliforms	ND	1	CFU/100 mL						
Total Coliforms	ND	1	CFU/100 mL						
Heterotrophic Plate Count	ND	10	CFU/mL						

Certificate of Analysis

Report Date: 17-Nov-2016

Client: McIntosh Perry Consulting Eng. (Carp)

Order Date: 9-Nov-2016

Client PO:

Project Description: 16-0280

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	91.9	1	mg/L	89.8			2.4	10	
Fluoride	1.07	0.1	mg/L	1.07			0.1	10	
Nitrate as N	ND	0.1	mg/L	ND				20	
Nitrite as N	ND	0.05	mg/L	ND				20	
Sulphate	75.2	1	mg/L	75.9			0.9	10	
General Inorganics									
Alkalinity, total	218	5	mg/L	219			0.2	14	
Ammonia as N	0.125	0.01	mg/L	0.117			6.0	8	
Dissolved Organic Carbon	1.9	0.5	mg/L	0.7			97.3	37	QR-01
Colour	ND	2	TCU	ND				12	
Conductivity	397	5	uS/cm	423			6.3	11	
pH	7.7	0.1	pH Units	7.7			0.4	10	
Phenolics	ND	0.001	mg/L	ND				10	
Total Dissolved Solids	544	10	mg/L	582			6.8	10	
Sulphide	ND	0.02	mg/L	ND				10	
Tannin & Lignin	ND	0.1	mg/L	ND			0.0	11	
Total Kjeldahl Nitrogen	ND	0.1	mg/L	ND				10	
Turbidity	92.1	0.1	NTU	92.4			0.3	10	
Metals									
Calcium	24000	100	ug/L	24400			1.7	20	
Iron	137	100	ug/L	144			4.8	20	
Magnesium	5030	200	ug/L	5290			5.2	20	
Manganese	38.5	5	ug/L	40.7			5.5	20	
Potassium	2640	100	ug/L	2750			4.1	20	
Sodium	25300	200	ug/L	26400			4.6	20	
Microbiological Parameters									
E. coli	ND	10	CFU/100 mL	ND				30	BAC09, BAC12
Fecal Coliforms	ND	10	CFU/100 mL	ND				30	BAC09, BAC12
Total Coliforms	ND	10	CFU/100 mL	ND				30	BAC09, BAC12
Heterotrophic Plate Count	180	10	CFU/mL	220			20.0	30	

Certificate of Analysis

Report Date: 17-Nov-2016

Client: McIntosh Perry Consulting Eng. (Carp)

Order Date: 9-Nov-2016

Client PO:

Project Description: 16-0280

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	98.4	1	mg/L	89.8	86.5	78-112			
Fluoride	2.07	0.1	mg/L	1.07	100	73-113			
Nitrate as N	0.94	0.1	mg/L	ND	93.6	81-112			
Nitrite as N	0.981	0.05	mg/L	ND	98.1	76-117			
Sulphate	84.1	1	mg/L	75.9	82.1	75-111			
General Inorganics									
Ammonia as N	0.347	0.01	mg/L	0.117	91.9	81-124			
Dissolved Organic Carbon	8.8	0.5	mg/L	2.0	68.4	60-133			
Phenolics	0.023	0.001	mg/L	ND	93.6	69-132			
Total Dissolved Solids	90.0	10	mg/L		90.0	75-125			
Sulphide	0.48	0.02	mg/L	ND	97.0	79-115			
Tannin & Lignin	1.1	0.1	mg/L	ND	110	71-113			
Total Kjeldahl Nitrogen	1.81	0.1	mg/L	ND	90.3	81-126			
Metals									
Calcium	994		ug/L	ND	99.4	80-120			
Iron	998		ug/L	ND	99.8	80-120			
Magnesium	1020		ug/L	ND	102	80-120			
Manganese	49.4		ug/L	ND	98.9	80-120			
Potassium	1040		ug/L	ND	103	80-120			
Sodium	1010		ug/L	ND	101	80-120			

Certificate of Analysis

Client: McIntosh Perry Consulting Eng. (Carp)

Client PO:

Report Date: 17-Nov-2016

Order Date: 9-Nov-2016

Project Description: 16-0280

Qualifier Notes:***Login Qualifiers :***

Sample - Filtered and preserved by Paracel upon receipt at the laboratory - Metals not field filtered, preservative not rinsed out. Subsampled from General bottle for metals.

Applies to samples: TW10-1, TW10-2

Sample - Not field filtered -

Applies to samples: TW10-1, TW10-2

Sample Qualifiers :

- 1 : Bacteria sample was diluted due to suspended particulate matter.
- 2 : Confluent background colonies on filter: may interfere with target reactions and the analysts' ability to count E. coli & Total Coliform. The target colonies may be under-represented.

QC Qualifiers :

QR-01 : Duplicate RPD is high, however, the sample result is less than 10x the MDL.

QS-02 : Spike level outside of control limits. Analysis batch accepted based on other QC included in the batch.

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

Client Name: <u>MPLC</u>	Project Reference: <u>16-0280</u>	Turnaround Time: <input type="checkbox"/> 1 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> 2 Day <input checked="" type="checkbox"/> Regular Date Required: _____
Contact Name: <u>J. Bowman</u>	Quote # <u>Standing Offer</u>	
Address: <u>115 Walsingham Rd.</u> <u>Carlton Place 160</u>	PO # <u>16-0280</u>	
Telephone: <u>613 229 9528</u>	Email Address: <u>j.bowman@mcintoshberry.com</u> <u>d.groff@mcintoshberry.com</u>	

Criteria: ☒ O. Reg. 153/04 (As Amended) Table ☐ RSC Filing ☐ O. Reg. 558/00 ☐ FWQO ☐ CCME ☐ SUB (Storm) ☐ SUB (Sanitary) Municipality: _____ ☐ Other: _____

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Required Analyses

Parcel Order Number:		Matrix	Air Volume	# of Containers	Sample Taken		Subdiv.												
Sample ID/Location Name					Date	Time													
1	TW10-1	GW	✓	8	8-Nov-16	11:27	✓												
2	TW10-2	GW	✓	8	8-Nov-16	16:16	✓												
3				⑦	1x Used Back in														
4																			
5																			
6																			
7																			
8																			
9	Metals not field filtered, preservative not rinsed out. Subsample from																		
10	general bottle and filter/preserve in lab as per client - RS																		

Comments:

Method of Delivery:

Paracel

Relinquished By (Sign): <u>[Signature]</u>	Received by Driver/Depot: <u>[Signature]</u>	Received at Lab: <u>SUMMITPORN DDKMAJ</u>	Verified By: <u>[Signature]</u>
Relinquished By (Print): <u>J. Bowman</u>	Date/Time: <u>09/11/16 11:25</u>	Date/Time: <u>NOV 09 2016 12:35</u>	Date/Time: <u>9/11/16 13:51</u>
Date/Time: <u>8-Nov-2016 18:57</u>	Temperature: <u>11</u> °C	Temperature: <u>7.2</u> °C	pH Verified () By: <u>[Signature]</u>

APPENDIX F

Draft Quarry Plans